

American Fruit Grower

MARCH • 1954



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Trade-Mark

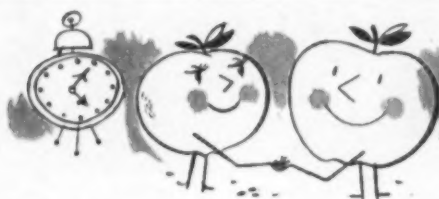
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2

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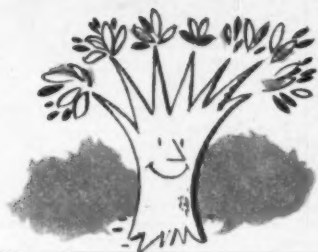
Suppression of European red mites — When used in a complete spray program, growers find that CRAG 341 often prevents mite populations from increasing to serious proportions. This saves the cost of special sprays for mite control and simplifies the spray program.



4

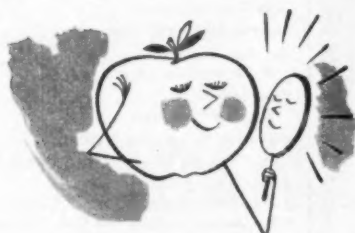
Convenience — CRAG 341 is a liquid fungicide and ideal for dilute or concentrate spraying — it is easy to measure and gives you less bulk in the spray tank — it is pleasant to handle and safe to apply.

gives you the fruit at the lowest cost



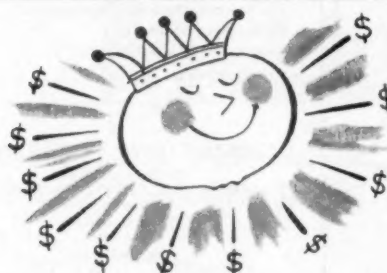
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Higher yields—When you spray your trees with CRAG 341, you get vigorous dark-green foliage—larger and more fruit buds—excellent scab control—red mite suppression. This all adds up to healthier trees that produce greater yields.



6

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CUBERT, ILLINOIS

January 12, 1954

Pres.

Mr. Timothy A. Besler
Besler Corporation
Emeryville, California

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Yours very truly,
J. J. BOYD & SONS

Charles Boyd
Manager

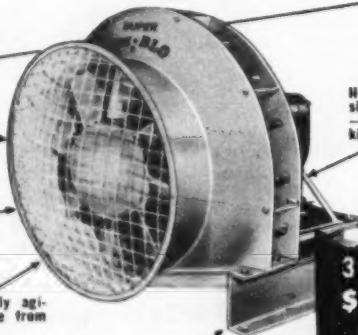
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MARCH
VOL. 74

1954
No. 3

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For leaf and blossom when God gives us Spring!"
—John Greenleaf Whittier

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M. A. FRAZIER
Art Director GEORGE M. ROSS
Washington Correspondent LARSON D. FARRAR
Advertising Manager
EDWARD L. MEISTER

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PHILADELPHIA, Clayton S. Staley, Jr., 1138 Lincoln
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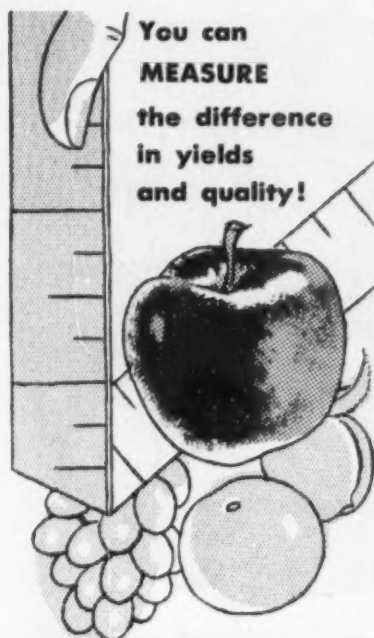
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LETTERS TO THE EDITOR

Permission to Reprint Articles

Dear Editor:

I am writing to ask permission to quote from your very good January, 1954, Yearbook introduction, "Don't be Afraid to Stumble." This is to be used in our "Nors Notes," which goes out to approximately 500 members locally and about 50 on an exchange list throughout the country.

The New Orleans Rose Society
New Orleans, La. Alvin P. Lichtentag

Dear Editor:

In one of your issues you had an editorial, "The Northern Nut Tree—A Forgotten Cousin?" which was a tribute to the Northern Nut Growers Association. I would like to have a copy of that tribute and your permission to quote passages from it for an article on nut growing that I am planning to write.

Avon, Ohio A. A. Bungart

We are very happy to give our two readers permission to quote from these two articles with credit, of course, to AMERICAN FRUIT GROWER.
—Ed.

Children and Farm Safety

Dear Editor:

The files of the National Safety Council contain far too many stories of the tragedies resulting from children riding upon or operating intricate farm equipment. Children have neither the strength nor the judgment to cope with emergency situations, especially with power equipment. There are other hazards also that bring about needless accidents to children.

The National Conference for Farm Safety has been studying this problem for several months and plans are being made for long-range emphasis on child safety as related to agriculture. This will include not only the farm machinery aspects of the problem but also all phases of farm life affecting child safety.

The following four point program has been suggested:

- 1) Secure better statistics on child accidents.
- 2) Prepare materials for use in child accident prevention programs.
- 3) Greater publicity, to include radio and television.
- 4) Recognition for results achieved in this field.

The Farm Division of the National Safety Council believes coercion and compulsion are not satisfactory substitutes for education. But persistent violation of common sense practices is the surest way to bring about undesirable legislation. The Farm Division sincerely hopes that through effective farm safety education, parents and others will realize the importance of adequately protecting children against unnecessary hazards.

National Safety Council
Chicago 11, Ill. Maynard H. Coe

Fruit Production in France

Dear Editor:

I was interested in an item concerning fruit production in France in the "Fruit Talk" column on page 30 of your December issue.

I noted that cider apple production alone in France in 1952 was 211.9 million bushels and also that cider pear production in the same country was 33.1 million bushels.

These figures astonished me and a number of people to whom I showed them. Would you please confirm them for me?
Santa Ysabel, Calif. Fred H. Farmer

I am not surprised that you are amazed at the figures. Everyone usually is. Yet, according to the official circular from the USDA, Foreign Agricultural Service, dated July 20, 1953, they give the production of apples in the United States for 1952 at 92,696,000 bushels. Then they give a figure of 18,761,000 as the production of dessert and cooking apples in France during the same year. Then comes the astounding figure of 211,926,000 bushels of production for cider purposes.

In turn the figures for pears are exactly as stated in "Fruit Talk," to which you have referred. That is, the production of pears in the United States for 1952 was 30,744,000 bushels, while the production of pears in France for cider purposes was 33,120,000 bushels.

In other words, we do not produce quite enough pears in America to take care of the perry (pear juice) needs for France, and we produce less than half the number of apples that go into apple cider alone in France.

All of this points up to the fact that somehow we in America are not as heavy fruit juice drinkers as we sometimes think we are. On the other hand, we need only look to the soft drink industry to see where the dollars are going and who provides the drink for the consumer. In fact, the consumption of soft drinks in America is fabulous. If all the fruits and vegetables produced in America were squeezed into juice, the amount would be less than the American public now consumes as soft drinks. This is really something to think about.—Ed.

"Apple Pan Dowdy"

Dear Editor:

I am enclosing a self-addressed stamped envelope and would appreciate it very much if you would please send me a copy of the recipe for "Apple Pan Dowdy."

After reading Mrs. Booth's request for a copy of the recipe, I went to look for it through my recipes which I have clipped out of your magazine, but I can't find it.

Yonkers, N. Y. Mrs. Veronica Nicholas

Because so many of our readers have requested copies of "Apple Pan Dowdy," we are printing it again this month on "The Orchard Home" page.—Ed.

Fruit Harvest Queens

Dear Editor:

In the January, 1954, issue of AMERICAN FRUIT GROWER you have, on page 25, a picture of Patricia Ann Casey, Maine Apple Queen.

This beautiful young lady was looking at my copy of AMERICAN FRUIT GROWER and, seeing her picture there, was very desirous of procuring a copy of the magazine. I am loathe to relinquish my copy, but I promised her that I would write to you and ask if you would forward her a complimentary copy.

I am sure your kindness in this matter will be very much appreciated.

The Maine Apple Committee
So. Portland, Me. W. Deane Haskins

We are very happy, indeed, to send a copy of the January issue of AMERICAN FRUIT GROWER containing Miss Casey's picture in connection with the feature on Fruit Blossom and Harvest Queens.—Ed.

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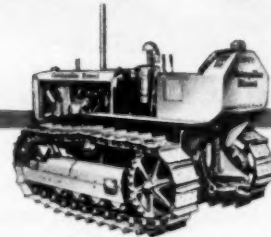
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TIME HONORED PEACH PRUNING METHOD

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By M. G. FULTZ

Middlesex County (Mass.) Agricultural Agent

IN the long ago 1920's, Thomas J. "Dad" Barnes, then orchard superintendent at Purdue University, Lafayette, Ind., taught students in pomology, a method of pruning peaches. "Dad" Barnes had come to Purdue with years of orchard experience and experience in growing peaches in Ohio. His way of pruning, with the simple logic behind it, was standing the test then, and it has worked from a practical standpoint over the years that have followed.

Many of those Purdue undergraduates that he taught have gone out into the field of production involving peaches, and as growers or as teachers have found the system unchanging and sound. "Dad" Barnes' argument that it was a good way to produce peaches year after year and stay consistently in the business is still as convincing as it was in 1923. The writer was one of those students.

Any method of pruning peaches is based on the desired placing of the fruiting wood which is, of course, the preceding year's growth. A peach tree pruned "long" and left to its own designs will produce such wood gradually farther out each year. The strongly budded wood will be concentrated in the outside terminals with the inside of the tree becoming barren as produc-

tion proceeds. Breakage becomes a problem and the tree is actually overworked during the heavy years.

In practice, over-fruiting one year has a definite bearing on the set of fruit the next. Borderline conditions of freeze and frost damage and other crop-affecting factors depend consistently on uniform tree vigor from year to year. Thus, although the method outlined here might well decrease production during a heavy year, over a long period the yearly production will hold up against any other method.

Naturally, cutting back each year puts off the time of "de-horning" for a long time and "de-horning" in the literal sense is seldom needed. Good size is much more easily attained and breakage is held to a minimum. Thinning,

although necessary, is aided greatly by limiting the fruiting wood at pruning time.

Peach pruning is more safely done in late winter or early spring in the northern areas. March is an ideal time.

Execution of "Dad" Barnes' methods begins early in the life of the tree and proceeds consistently throughout its life. The pruner cuts back to good fruiting wood by removing chunks from the terminals of all of the fruiting branches. To keep down height or extreme length he may cut sharply back to laterals, but in general the proper height and length is surprisingly well-defined by that good fruiting wood. Such wood is moderately vigorous and has the nodes relatively close together. Huge, over-vig-

(Continued on page 41)



Top—Peach tree at Lookout Farm before pruning. Note the wealth of good fruiting wood.



Above—Good fruiting wood with moderately vigorous last season's growth and quite close nodes.



Left—Same tree as shown in photo at top, after pruning.



1953 PEACH VARIETY SURVEY

The peach variety picture is shifting rapidly. Here are important points to consider in mapping planting plans

By M. J. DORSEY

Secretary, National Peach Council

PEACH growers are always interested in varieties because so many things need to be evaluated when considering which ones to plant. Such items as hardness, color, toughness in handling, ripening date, and suitability for different types of use must be decided upon at planting time.

These factors have a great deal to do with the shift in interest in a variety. In taking a long look from the national standpoint it will be seen that while many varieties come and go, others stay on. Elberta, which originated in Georgia about 1870, is still the leader.

The grower must regard the variety situation from the national standpoint, and he must evaluate the place of the peach in the light of some interesting changes which have taken place. For example, with the concentration of peach production in intensively planted regions, distributors must necessarily ship long distances for at least a variable fraction of their volume. When one region ships peaches into 20 or 30 states it follows that the commercial varieties making up their volume come into competition with others from regions both earlier and later.

We must also take into consideration other factors. There is still a great deal of interest in canning although it has

noticeably declined in recent years. The method of selling has shifted and some estimates indicate that as much as 85 per cent of the peaches are sold in the self-help trade. Interest in freezing is active and the use of peaches for this purpose may be expected to increase.

These facts have made it imperative for the National Peach Council to compile accurate information for the trade in regard to the timing and quantity of peaches to be placed into commercial channels from the different regions. Our basic approach has been to ask the leaders in different states to name the 10 leading commercial varieties with their estimate of the percentage of the volume coming from each one.

In some states the acreage planted to each variety is taken from recent orchard-by-orchard surveys. In other instances where such data are not available, the judgment or estimates of key men in the trade have been taken.

It should be noted in reviewing the commercial list in the accompanying table that the states are placed in the approximate order of the entrance of their crop into commercial channels. Also the varieties are listed in the table in the approximate order of their ripening date, as summarized by John Bregger of Clemson, S. C., who has given

this subject wide attention from year to year as chairman of the committee on varieties and nomenclature of the American Pomological Society.

The dominance of Elberta is clearly evident, since it is grown commercially in each state. Halehaven and Golden Jubilee come next. The sentiment among peach growers, however, is that Halehaven and Golden Jubilee are both losing ground.

It should be emphasized again that this table is based upon commercial varieties already in production. It does not, therefore, take into account some of the more promising recent introductions such as Fairhaven or Coronet.

Growers as well as other sectors of the trade recognize the differences between varieties in the way they "stand up" when being run through various operations from the orchard to the kitchen. In the 1953 Annual of the National Peach Council a rating list of the commercial varieties was given so that growers making new plantings could have the judgment of a large number of people as to the difference between varieties in handling.

For the convenience of those who may not have this information, it may be well to state that J. H. Hale, which is recognized as one of the toughest peaches in handling and is known as one of the best shippers, is given a rating of 10. On that same basis Elberta is rated 8. The following list ranges, as you will note, from 10 to 5. Rio Oso Gem has a rating of 10, the same as J. H. Hale. Frank, grown commercially in Texas, was given a rating of 9. Other varieties rate as follows:

Varieties given a rating of 8:

Brackett	Redelberta
Elberta	Redhaven
Fay Elberta	Redskin
Gage	Salwey
Hinner	Shippers Late Red
Kim Elberta	Triogem
	Victory

Varieties given a rating of 7:

Burbank July Elberta	Redcap
Cardinal	Slappy
Coronet	Southland
Dixigem	Sullivan Early
Dixired	Elberta
Early Elberta	Summercrest
(Gleason)	Sunhigh
Fairhaven	Vedette
Jerseyland	Veteran
July Elberta	Viceroy
Kirkman Gem	

Varieties given a rating of 6:

Belle	Halehaven
Crawford	Hiley
Early Hiley	Rochester
Fair Beauty	South Haven
Goldeneast	Valiant

Varieties given a rating of 5:

Erly-Red-Fre	Mayflower
Fisher	Newday
Golden Jubilee	Pearson Hiley
Highland	

From this analysis of peach varieties growers can learn the commercial list from each state, those ripening before or after Elberta, and an approximate rating of which varieties handle best in commercial production. **THE END**

AMERICAN FRUIT GROWER

ESTIMATED PERCENTAGE OF COMMERCIAL YIELD IN 1953 FOR EACH VARIETY OF PEACH IN EACH STATE

(States are arranged in approximate order in which the commercial crop comes on, and the varieties are listed in the order of ripening.)

	Ga.	S.C.	Tex.	La.	Ark.	Ala.	N.C.	Calif.	Tenn.	Ky.	Mo.	Kans.	Ill.	Ind.	Va.	Del.	Md.	N.J.	W. Va.	Pa.	Wash.	Colo.	Utah	Id.	Ore.	Ohio	Mich.	N.Y.		
Mayflower	+																												Mayflower	
Dixired	5		1			4	5																						Dixired	
Red Bird			10		2		1			1																			Red Bird	
Early-Red-Fre	4	2	2			10	2							1					1							2			Early-Red-Fre	
Pearson Hiley	3																												Pearson Hiley	
Disigem	10	8	3	25	+		10																						Disigem	
Jerseyland																	10			1									Jerseyland	
Redhaven	2	3			10	5		1	2	2		15		7	2		1			10	2					5	5	10	Redhaven	
Golden Jubilee		8	+	10	3	5	15	+	10	5	5			5	3		7	5	2	5	10	1				1	5		15	Golden Jubilee
Merrill Gem								+																					Merrill Gem	
Early Hiley	15																												Early Hiley	
Fair Beauty			8		7	11					10																		Fair Beauty	
Newday																		5		1									Newday	
Triogem				4								5					1	10		5									Triogem	
Rinchester																										3		2	Rinchester	
Fairhaven																												3	Fairhaven	
Hiley	+	5				13																							Hiley	
Halehaven	3	4	5		3	12			5	5	20	25	5	15	2		12		10	+	+	1	10		4	15	27	15	Halehaven	
Burbank July Elberta			10		30			10																					Burbank July Elberta	
Southland	2			10																									Southland	
Sunhigh			+	4			5											6	+	2									Sunhigh	
Goldeneast																		10											Goldeneast	
South Haven																											2	+	South Haven	
Sullivan	10	7	+	15	+		5		5						1				+										Sullivan	
Summercrest																		10											Summercrest	
Belle of Georgia		2					8		8	2		10					6												Belle of Georgia	
Early Elberta (Gls.)								15			5			8			2			1	10	4	5	+					Early Elberta (Gls.)	
July Elberta (Kim Elberta)		5						10														2	2		4				July Elberta (Kim Elberta)	
Hinner													5																Hinner	
Elberta	35	45	50	25	40	37	45	30	60	80	60	20	80	42	75	60	45	25	75	60	50	85	75	25	55	50	45	70	Elberta	
Gage									2				4	+															Gage	
Fay Elberta (Gold Med.)								10																					Fay Elberta (Gold Med.)	
J. H. Hale		2						5				20	4	5			5	4	3		15	2	1	65	25		3		J. H. Hale	
Shippers Late Red		3				4	1			2				8			3		5										Shippers Late Red	
Rio Oso Gem								10									1				15	1							Rio Oso Gem	
Kirkman Gem								5																					Kirkman Gem	
Late Elberta		4															2												Late Elberta	
Salwey																							2						Salwey	
	Ga.	S.C.	Tex.	La.	Ark.	Ala.	N.C.	Calif.	Tenn.	Ky.	Mo.	Kans.	Ill.	Ind.	Va.	Del.	Md.	N.J.	W. Va.	Pa.	Wash.	Colo.	Utah	Id.	Ore.	Ohio	Mich.	N.Y.		

+ In commercial production but percentage not given.

PLANT CHEMOTHERAPY AT WORK *for the Fruit Grower*

Sick plants, like sick humans, respond to "internal" medication

By A. E. DIMOND

Connecticut Agricultural Experiment Station

DO you have any fire blight on your apples or pears? Or are your strawberries dying from red stele disease? How about those virus diseases on peaches and cherries?

These are all examples of plant diseases which are internal. Plant chemotherapy is designed to control such diseases just as internal human diseases are controlled with antibiotics and sulfa drugs. Plant chemotherapy makes use of chemicals which are absorbed into the plant and act to control disease.

One reason why this technique promises to be so useful is that it can bring under control vascular wilt diseases, bacterial diseases, and many other kinds of plant troubles for which there have been no good control measures in the past.

During the last 15 years remarkable things have been done with plant chemotherapy. In 1938 E. M. Stoddard of The Connecticut Agricultural Experiment Station described a new virus disease on peaches and called it X disease. He thought it ought to be possible to find chemicals which would inactivate the virus in the plant. So he soaked diseased buds in a variety of chemicals. Certain of them caused diseased buds to grow healthy when they were later budded into healthy trees.

As a next step he injected chemicals into virus-inoculated seedling peach trees. He found that sulfanilamide injections effectively prevented disease but that the treatment was too injurious to be practical, and later that ordinary calcium chloride was useful as a chemotherapeutant without being injurious. When calcium chloride has been used in orchards, the spread of X disease has been decreased, and there is some evidence that diseased trees have slowly recovered.

Stoddard had also observed that the wild black cherry, *Prunus serotina*, never gets X disease and he wondered whether this plant contains a chemi-

cal which makes it immune. To test this he made extracts of bark of the wild black cherry and injected them into X disease-inoculated peach seedlings. Treatment protected these plants from X disease but caused severe injury to the plant. Purified extracts proved both to be highly effective and non-injurious to peach trees.

Because this disease is so easily controlled in Connecticut by eradicating choke cherry in the vicinity of peach orchards, there is little need for growers here to use plant chemotherapy to control it—unless an orchard has many infected trees. But in other parts of the country the disease commonly spreads from one peach tree to another. As a result of Stoddard's work, scientists elsewhere are at work developing compounds and methods of application to control stone fruit virus diseases.

There are many other plant diseases which cause serious losses to growers but which have heretofore been difficult to control. A chemotherapy research program has been in progress at The Connecticut Agricultural Experiment Station continuously for some 14 years in an effort to put plant chemotherapy to work for the grower. The plant disease which has been most used for this experimental work is the fusarium wilt of tomato, a vascular wilt disease.

Gradually chemicals have been found which will do an effective job of controlling this disease without injuring the plant. Fusarium wilt of tomato was chosen because it is typical of the vascular wilt diseases, is easy to handle experimentally, and the severity of disease can be graded in a meaningful way. This permits an experimenter to compare the value of one treatment with another.

But fusarium wilt of tomato is not a serious disease problem in Connecticut, and to find whether promising treatments are valuable in practice it is necessary to use these treatments on

other plants which suffer under Connecticut conditions from fusarium wilt. Greenhouse-grown carnations are a good crop for this purpose, and promising treatments were therefore applied to carnations in commercial greenhouses with the co-operation of florists who were having trouble with losses from fusarium wilt.

All compounds tried for control of fusarium wilt of carnations worked and worked well in preventing the spread of the disease among established plants. This was a significant advance because prior to that time there had been no way for a grower to reduce disease losses from fusarium wilt once his beds were planted. But now there was a technique to stop further spread of the disease.

The grower has since rigged his equipment so that chemotherapeutants can be applied automatically whenever he fertilizes the plants and as a result his greenhouse is so free of fusarium wilt that one does well to find two or three diseased plants in 10,000. Other carnation growers are gradually trying this new method and are slowly accepting it.

Another practical victory for plant chemotherapy was the work of Stoddard on red stele of strawberries. One day a grower came into Mr. Stoddard's office with some plants suffering from red stele. The fungus that causes this disease grows through the roots of the plants and marches right through a field. It happens that this fungus is related to the one that causes the late blight of potatoes.

Stoddard knew that Nabam was a good fungicide for late blight, so he reasoned it ought to work as a soil drench to control red stele. There wasn't time to do a lot of experimenting and still help the grower. Stoddard knew that Nabam would kill strawberry plants if it touched their foliage. Although he wasn't sure if the plants

(Continued on page 46)



● Georgia Anticipates Good Peach Crop in 1954

● New York Fears Codling Moth Is Becoming Resistant to DDT

VIRGINIA—Plan NOW to take part in this forthcoming event.

The Virginia State Horticultural Society will be host to a four-state joint summer meeting to be held in the Timberville section of Rockingham County and the Mt. Jackson section of Shenandoah County of Virginia, Friday, August 27, 1954.

This series of joint summer meetings by the horticultural societies of Maryland, Pennsylvania, West Virginia, and Virginia was started in the summer of 1952. Maryland was unable to hold the meeting in 1953, but anticipates taking its turn in 1955 or 1956.—*John Watson, Sec'y, Va. Society, Staunton.*

GEORGIA—By February 15 there had been a sufficient number of cold hours to meet the chilling requirements of commercial varieties of peaches in all of the major peach producing sections. There was plenty of rain during the summer of 1953 for excellent growth of the trees and the production of a good bud crop. Prospects are unusually good at this time for a crop of peaches in 1954.

Quite a few new peach plantings have been made around Fort Valley, Woodbury, and Monticello. There is a slight trend upward in peach tree population.

Four new hydrocoolers are being installed this year in the Fort Valley area. This brings the total up to seven for this peach section with one very large-capacity hydrocooler operating for the past two seasons in the middle Georgia peach section. This method of rapidly cooling peaches is becoming increasingly popular with the larger growers.—*Earl F. Savage, Dept. of Hort., Experiment.*

WISCONSIN—Wisconsin apples make a hit in Florida! Mr. and Mrs. William Connell, owners of Sunridge Orchard, Menomonie, have opened "The Wisconsin Apple Market" between Clearwater and St. Petersburg. The open-air building, constructed of concrete blocks, is attractive in its coat of red and white paint and with a large sign which can be read a quarter mile away. It is a pioneer effort and the Connells were very optimistic when the writer visited them in late December.

We saw an intriguing sign in front of one of the top restaurants in St. Petersburg. It stated, "We Serve The Best Apple Pie in the World." It's a sign one remembers and should be considered in future apple promotion.—*H. J. Rahmlov, Sec'y, Madison.*

NEW YORK—Dr. P. J. Chapman of the New York State Experiment Station at Geneva told growers attending the 99th annual meeting of the New York State Horticultural Society that codling moth seems to be on the verge of becoming resistant to DDT. Resistance was first noted in Ohio last season, he warned, and resistance may be starting in New York. It would be a near calamity if this actually happens, Dr. Chapman said.

He also reported that European red mite resisted phosphate materials in only one Hudson Valley orchard in 1952 but last season about 10 additional orchards were involved. To avoid the new threat, he advised use of not more than two applications of phosphate materials a season. Resistance can be postponed

Friday — March 19, 1954
10:00 AM—

KENTUCKY will hold its annual Spring Peach Pruning Field Day on the above date at the Kentucky Cardinal Orchards of Frank Street at Henderson. The pruning experiments are under the direction of W. D. Armstrong. Pruning plots on peach trees from two to 16 years old are under observation. Bring your boots, raincoat, and cap for the demonstration will be held in the open and rough weather will likely prevail. Growers from several states will be there, and commercial men are welcome.—*W. W. Magill, Sec'y, Lexington.*

by use of an early oil spray, he stated. No insect pest is known to have ever developed resistance to oil.

In an evening session, growers were given the latest information on concentrate spraying and in addition received the concentrate spraying manual for deciduous fruits prepared by Albert A. LaPlante, extension entomologist at

Ithaca. A survey of growers in Monroe, Niagara, Orleans, and Wayne counties showed that out of 684 growers, 599 used dilute sprays and 85 used concentrate sprays.

Professor M. B. Hoffman told growers that a heavy bloom is expected this spring in New York apple orchards. He recommended using amide sprays for thinning when trees are in bloom. Varieties like Yellow Transparent, Early McIntosh, Wealthy, Baldwin, and Golden Delicious, characteristically set heavy and consistently respond to spray thinning more satisfactorily than do others.

John Chandler, Massachusetts grower and executive vice-president of the New York & New England Apple Institute, told growers that demand for McIntosh has been growing rapidly and that progressive growers have been feeling their way into markets in Baltimore, Washington, North and South Carolina, and Florida, as well as Pittsburgh, Cleveland, and even Chicago. If this trend continues growers may find it hard to satisfy the demand, he ventured.

New York growers resolved to ask Congress

(Continued on page 48)

FRUIT PEST HANDBOOK

(THIRTY-FIRST OF A SERIES)

APPLE BITTER ROT

APPLE bitter rot can be exceedingly destructive in the more southern orchards east of the Rocky Mountains. In 1870 an orchardist aptly described the effect of this disease on apples when he wrote, "... the bitter rot blasts them like the breath of ruin and the promise of spring ends in disappointment and decay ..."

Fortunately, it is less prevalent than it was in 1870 but it still is a constant threat in many apple orchards. The bitter rot fungus is a warm-weather fungus, developing most effectively at temperatures between 70° and 80° F. during periods of rainy weather.

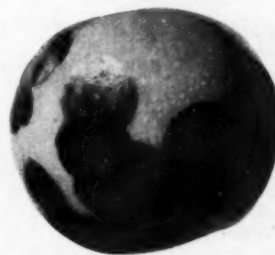
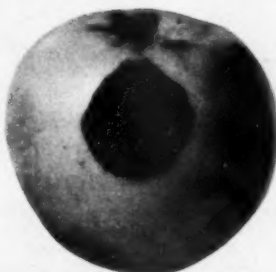
The spores of this fungus are able to penetrate uninjured apple skin and penetra-

tion is followed by the development of small, light-brown, sometimes almost colorless spots just under the skin. On yellow apples the infected spots may be surrounded by a purplish-red band.

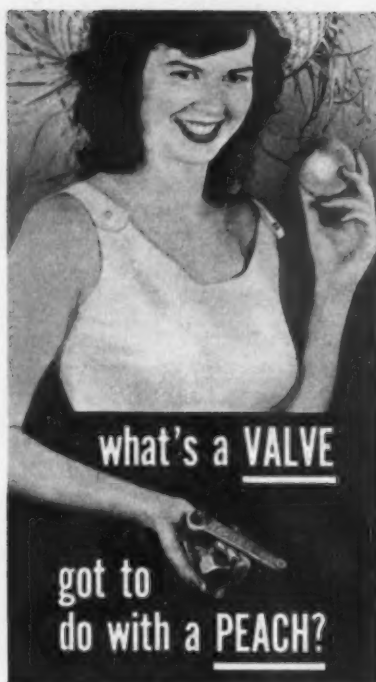
If only a few spots are present, each individual spot may increase rapidly in size and attain a diameter of one inch in four or five days. The tissues beneath the spots are rotted and the diseased portion extends in the shape of a cone to the core. Usually the rotted tissue has a bitter taste and is soft and watery in texture.

The fungus may continue to spread and involve the entire apple, or its development may be arrested and the tissues dry out, leaving a cone-shaped cavity covered by the dead, discolored, papery skin. Occa-

(Continued on page 51)



Apples infected with bitter rot. Photograph courtesy USDA.



The answer is, "plenty"! Especially if you grow fruit. During speed sprayer, blower or boom spraying operations you open and close valves hundreds of times daily. That's why the quality of the valve is so important.

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WASHINGTON FRUIT LETTER

• Rubel Appointed to Foreign Agricultural Service Post

• Future of Export Market Looks Bright

NEWs that Donald M. Rubel has been appointed director of the Fruit and Vegetable Division of the Foreign Agricultural Service is highly pleasing to fruit leaders. Don Rubel is well known to fruit growers, having taken an active part in many of the winter fruit meetings and in helping to formulate plans and policies of such groups as the National Apple Institute and the National Peach Council. He was formerly chief of the fruit branch of the Fruit and Vegetable Division of the Production and Marketing Administration. He is a native of San Luis Obispo, Calif.

Mr. Rubel's appointment ties in with the recent announcement by Secretary of Agriculture Ezra Taft Benson of a program to regain and develop export markets for perennial fruits and fruit products. The program places emphasis on both surplus removal and the development of continuous long-range markets for such fruits as apples, pears, oranges, lemons, grapefruit, plums, grapes, and dried fruits. It also includes an expansion of the market development work on dried edible beans and peas. A special effort is being made to obtain removal of barriers in other countries that impede the entrance of U. S. fruits.

F. A. Motz, who is also well known to growers, will work with Rubel to help open up overseas markets for fruits. Dr. Motz will leave next month for the West Coast to talk to fruit growers and will then return East, when he will leave for London to start the fight again to regain the export market.

Dr. Motz stated that if the government will make good just 50 per cent of

its promises the future for the export market will look very bright. He went on to say that the government men are making great efforts to regain the export market, and there are immediate chances for improvement.

The team of Motz and Rubel should be able to accomplish much for the fruit industry during the next few years.

THE new attitude of the USDA, which has changed from indifference to active help, will speed the return of prewar conditions when exports of fruits and fruit products ranked first in the U. S. export of foods. They ranked third in all agricultural exports, exceeded only by cotton and tobacco.

FRUIT growers contemplating the construction of new storage facilities will be very much interested in a new bill introduced to Congress by Republican Representative Karl C. King of Pennsylvania. The bill is a duplicate of the one passed last year on the construction of grain storages which allowed the cost to be written off or depreciated over a five-year period.

Representative King, whose King Farms are famous as vegetable producers, introduced the bill at the request of some of his apple-producing neighbors.

This is the year for tax revisions and committees of the House and Senate are besieged with requests for tax relief in all manner of ways. Whether such an atmosphere helps or hinders Congressman King's bill remains to be seen.



USDA

Industry leaders who met recently with Secretary of Agriculture Ezra Taft Benson (seated at the desk) are from left to right: Clayton E. Whipple, Foreign Agricultural Service, USDA; Truman Noid, National Apple Institute; Martin E. Hearn, Florida Citrus Mutual, Lakeland, Fla.; Henry W. Miller, Jr., Paw Paw, W. Va.; J. A. Smith, Twin, White & Prince, Seattle, Wash.; W. C. Day, Santa Clara,

Calif.; Ernest Falk, Northwest Horticultural Council, Yakima, Wash.; F. W. Read, California Fruit Exchange, Sacramento, Calif.; Harold Angier, California Grape & Tree Fruit League, San Francisco, Calif.; A. E. Thorpe, Dried Fruit Association of California, San Francisco, Calif.; J. E. Klahre, Apple Growers Association, Hood River, Ore.; and F. A. Motz, Foreign Agricultural Service.

AMERICAN FRUIT GROWER

GET THE "LOW-DOWN" on This New Low-Built Field and Orchard Tractor



JOHN DEERE "40" UTILITY

It's compact. It's low to the ground. It's easy to get on and off. It's economical to operate. Its 3-point pickup tools are easy to change when the job changes. It's a mighty easy tractor to handle in fields . . . in vineyards . . . in orchards . . . in berries . . . in hopyards. It's a comfortable tractor to ride. It's extra stable when working on hillsides.

There, in a few words, you have a brief picture of the "40" Utility, the new John Deere two-plow tractor that has fruit growers and general farmers looking, talking, and buying.

Aren't these just the features *you* have

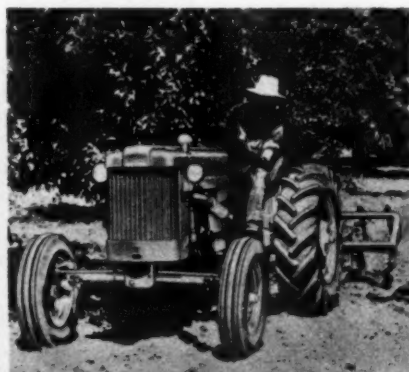
been looking for in *your* next tractor?

Here, too, you'll find all the other features that have made the "40" Series tractors so popular the country over. Just look them over—see list at right—then give your John Deere dealer a phone call for that free test drive.

Remember—these are demonstration days at John Deere, and it's your opportunity to get a close working acquaintance with this newest member of the big John Deere tractor family . . . this handy, all-purpose tractor that stands only 50 inches at the top of the hood.

ALL YOURS AS REGULAR EQUIPMENT

- Heavy-duty 3-point hitch and full line of "pick-up-and-go" working tools.
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- Deep, coil-spring cushion seat.



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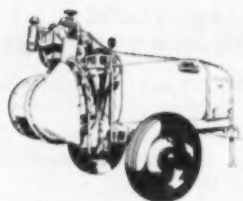
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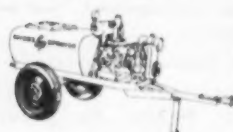
**"Concentrate Spraying with
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important ways,"**

says HAROLD JAMISON
Traverse City, Michigan

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THE QUESTION BOX

As a commercial apple grower I would like to have information about the results of using rock phosphate as fertilizer on apple orchards. How long has it been tested and did it reduce the number of insects? What were the results in size, color, quality, and quantity of fruit?—*Pennsylvania*

Reliable information concerning the use of rock phosphate on fruit trees is relatively non-existent. Fruit trees have not generally responded to applications of phosphate fertilizers. In general, the phosphorus applications may be expected to improve cover crop and sod growth and in this way improve tree performance indirectly. E. Stewart Hubbard of Poughkeepsie, prominent Hudson Valley, New York, grower, is a strong advocate of liberal use of rock phosphate. There are some indications that even though a deficiency of phosphorus may not be shown, yet high yields are associated with adequate phosphorus.

In a recent issue you had an article entitled, "A New Weapon for Fire Blight Control." I am very much interested in this new development, and I wonder if you can tell me where I could secure some commercial streptomycin preparation for use this spring?—*New Jersey*

Contact Chas. Pfizer & Co., Inc., 11 Bartlett, Brooklyn 6, N. Y.

Would it be practical for me to make my own wettable sulfur?—*Ohio*

Preparing wettable sulfur is a very difficult and technical proposition. Particle size is very important with sulfur. Wettable sulfur particles larger than 27 microns do not adhere to plant foliage sufficiently well to be considered of fungicidal value. Most wettable sulfurs are below 10 microns in particle size and are thus well below the maximum dimension. Sulfur particles smaller than half of one micron are of little fungicidal value because there is no tendency of the particle to settle out of the spray droplet.

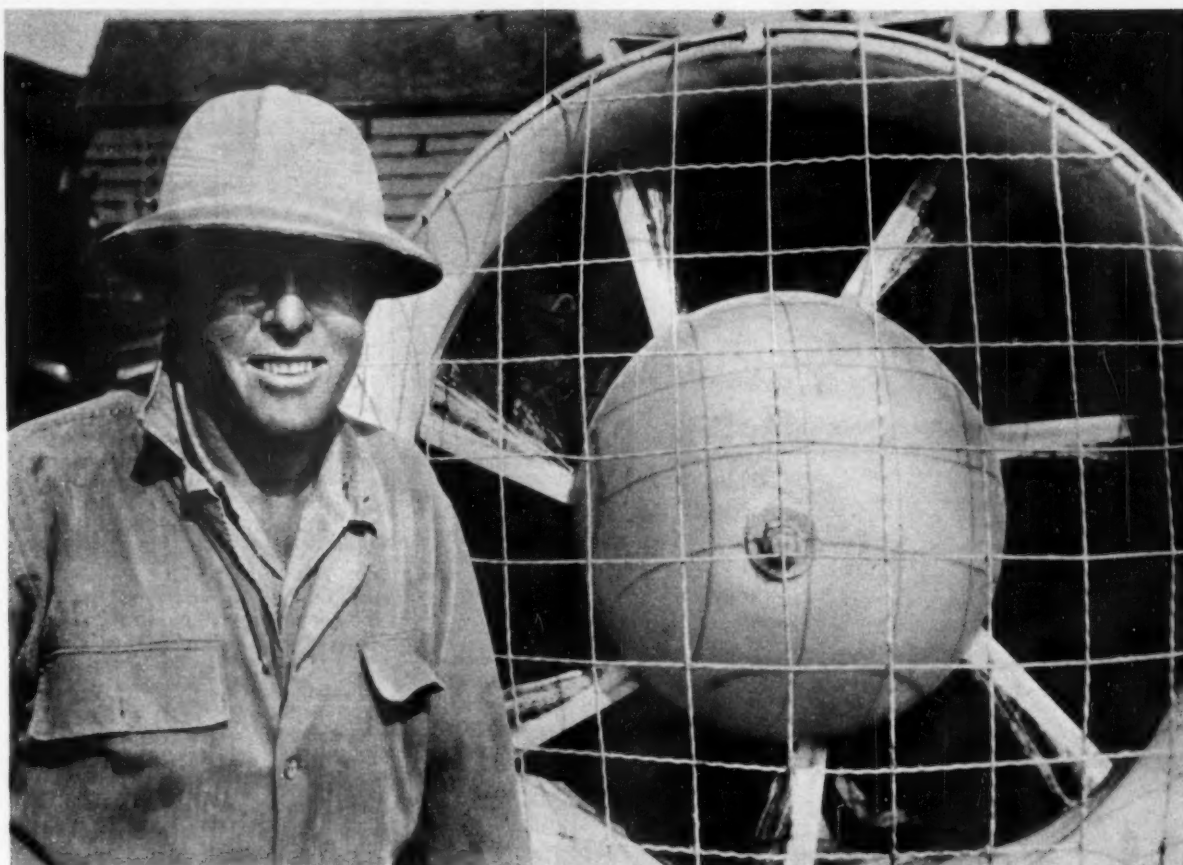
Do you know of a lightweight electric reciprocating saw on the market?—*Missouri*

I do not know of an electric reciprocating saw. However, the Miller-Robinson Company, 7007 S. Avalon Boulevard, Los Angeles, Calif., makes an air-powered saw.

I have heard of radioactive treatment of insects for control as a result of atomic energy research. Do you have any more facts?—*Nebraska*

The new method is aimed at eradication—not merely control—of the crew-worm fly in the southeastern states. It involves the carefully timed liberation of laboratory-reared insects after exposing them to radiation that sterilized them. A treated female fly lays infertile eggs that do not hatch. When a radiated male has mated with a normal female in the laboratory, the eggs from the female are deposited as usual, but do not hatch into maggots that damage livestock. The studies have shown that the female fly mates only once, and if this mating is with a treated male, none of the 300 or more eggs she lays in her lifetime hatch.

AMERICAN FRUIT GROWER



Mr. Hersey uses this efficient concentrate sprayer to treat his orchard. Dieldrin can be applied by any conventional equipment.

"dieldrin gives perfect control of plum curculio" says Burnett Hersey

HERSEY ORCHARDS, CASNOVIA, MICH.

"I USED DIELDRIN in 1953 on part of my apple orchard for plum curculio control. The dieldrin-treated apples brought a good price. Practically all of the untreated apples went to the cider mill.

"My orchard had a bad history of curculio damage in previous years and I feel that dieldrin is the best and cheapest answer to my curculio problems."

Growers everywhere are using dieldrin and getting the same fine results by following the dieldrin spray schedule recommended by their states. Dieldrin's killing power remains long periods, affording adult control during the days of greatest curculio activity. This prevents egg laying which damages the quality of fruit.

Dieldrin is available under many trade names as a wettable powder or

emulsible concentrate. Only 4 ozs. of actual dieldrin make 100 gallons of spray formulation. Dieldrin can be used in any conventional orchard sprayer, and is compatible with fungicides and insecticides commonly used in spray schedules.

Ask your local insecticide dealer for a dieldrin formulation. It's your No. 1 insecticide for long-lasting, economical control.

SHELL CHEMICAL CORPORATION

AGRICULTURAL CHEMICALS DIVISION
P. O. BOX 1617, DENVER 1, COLORADO

Atlanta • Houston • Los Angeles • New York • San Francisco • St. Louis • Jackson, Miss. • Portland, Oregon



2 sure, safe fungicides
MAKE a combination of
3 spray programs for
your specific needs



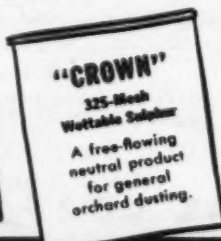
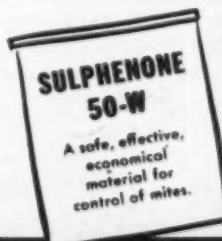
**CAPTAN
50-W**

and **MAGNETIC "70"**

1. For an economical, effective early season fungicide use a straight MAGNETIC "70" Sulphur Paste program on apples, peaches, cherries, and plums.

2. Where improved finish and better disease control at low cost are desired, use a tank mixture of MAGNETIC "70" and CAPTAN 50-W at about half dosages of each in the early season sprays. This combination has proven to be especially effective under conditions of frequent and heavy rains. MAGNETIC "70" acts both as a fungicide and as a sticker for CAPTAN, thus permitting reduced dosages and offering extra savings.

3. For higher yields of cleaner, brighter fruit of better keeping quality use a straight CAPTAN 50-W program throughout the entire season. Experience has shown that trees sprayed in this manner have produced better foliage — more and stronger fruit buds resulting in higher annual yields.



Stauffer Chemical Company

380 Madison Avenue, New York 17, New York

N. J. Fox & Sons tried

LIQUID NITROGEN

**Now their savings include
manpower, money, time**

By F. EARL HAAS

County Agent, Oceana County, Michigan

SPREADING nitrogen is no longer a hard, tedious job in the N. J. Fox & Sons' orchards at Shelby, Mich. Floyd Fox, eldest son and farm manager, says that he and two hired men completed the job of applying nitrogen on 300 acres of fruit in three eight-hour days. This was all accomplished without lifting a bag of fertilizer or walking a single mile.

Two years ago there was a serious shortage of nitrogen fertilizer in the fruit growing area of Oceana County. N. J. Fox & Sons operate a warehouse which sells fertilizer and other farm supplies. Realizing the great importance of nitrogen to the fruit industry, N. J. Fox, warehouse manager, looked for additional sources of this plant food. He heard about liquid nitrogen that could be purchased in tank cars. This form of nitrogen looked like it might be the answer to the shortage.

Several nitrogen solutions were available but one looked better than the others. It was known as Nitrogen Solution #60 and contained 21 per cent nitrogen. The nitrogen was in the ammonium nitrate form. It is not to be confused with urea which is often sprayed on trees in a dilute solution or with anhydrous ammonia which must be applied below the ground surface to prevent the ammonia from escaping into the air.

Solution #60

The Foxes, father and three sons, talked it over and decided to try Nitrogen Solution #60. They realized liquid nitrogen was an experiment since it had not been used on orchards, but they felt the conditions warranted a trial. A carload—8,500 gallons—was ordered for delivery in April, 1952. The carload of liquid nitrogen was equivalent to about 29 tons of dry ammonium nitrate and would nearly supply the supplemental nitrogen needs for their 300 acres of bearing apples, cherries, and peaches.

Nitrogen Solution #60, the material referred to by Mr. Haas, is manufactured by Nitrogen Division, Allied Chemical and Dye Corporation, 40 Rector St., New York 6, N. Y.

AMERICAN FRUIT GROWER



Tender truck spreading liquid nitrogen in a cherry orchard on the Fox farm. Two rows are being covered at about 13 miles per hour.

The nitrogen solution was shipped in an insulated tank car because it crystallizes out at about 50°. It has to be kept above that temperature to facilitate handling.

How to apply the material became the big question. April weather in Michigan is often below the 50° temperature that must be maintained. The only safe storage place was in the insulated car. A fast system of application had to be devised.

A "tender" or water wagon was available for the job. This was an old 500-gallon tank truck that had been used in former years to service the sprayers. With the advent of air-blast and concentrate spraying, the need for this work was eliminated.

Power Application

The tender was already equipped with a 100-gallon per minute centrifugal pump and an air-cooled motor. Two hose lines were attached with three-quarter inch pipes for guns. Nozzles were made from pipe caps with holes bored in them. Caps with different sized openings were used to vary the rate of application.

The spreading required a crew of three men. Platform seats were put on either side of the tank for the men operating the hoses. Floyd Fox did the driving himself.

Speed of the tank truck was varied to regulate the amount of nitrogen per tree. In the first orchard, three quarts of the liquid—the equivalent of five pounds of ammonium nitrate—was the desired application per tree. This amount could be applied by leaving the guns open and driving at 12 miles per hour when the trees were set 20 feet apart. The men operated the hose so a complete ring of the material was applied just inside the outer spread of the branches.

The acreage that was covered in one day varied with the planting distance, amount of material applied, and distance of the orchard from the rail siding. Floyd reported that one day they

(Continued on page 22)

MARCH, 1954

BIG SPRAYER PERFORMANCE AT SMALL SPRAYER COST



THE NEW JOHN BEAN SPEEDETTE—Yes, it's finally here. A full-fledged air sprayer for the medium-sized orchard. A sprayer to furnish the protection that gives you clean fruit commanding top market prices. A sprayer that means less labor, lower costs, faster coverage and less material. A sprayer built in the tradition of the famous John Bean Speed Sprayer — the "yardstick" by which experienced commercial fruit growers measure air sprayer performance.

Designed for dilute, reduced gallonage, or concentrate application, the John Bean Speedette is available in either engine-powered or power-take-off models. It will give you uniform coverage from ground to top-center, complete penetration of dense foliage, and controlled size of spray particles. Simple adjustments allow you to "tailor" the spray pattern to any section of your grove or orchard in a matter of minutes.



John BEAN

A Division of Food Machinery and Chemical Corporation

LANSING 4, MICHIGAN • SAN JOSE, CALIFORNIA

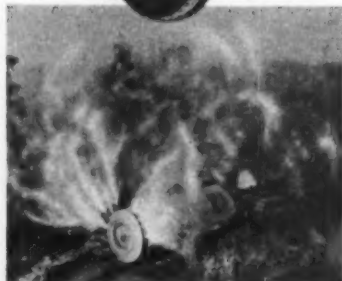
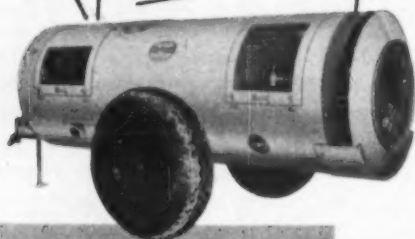
"It Will Pay for Itself In Two Years' Time in Saving of Labor and Materials Alone!"

E. F. Northrup, W. L. Northrup
and Ralph Peterson of
Northrup Brothers and Peterson



CARDOX AQUA-JET SPRAYER MODEL 54

The Sprayer That
Owners Endorse

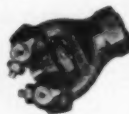


Tractor Seat Control — One Man on the Tractor Does the Work of a Whole Crew!

● Savings are just one reason why owners are enthusiastic about their CARDOX Aqua-Jet sprayers. Invariably, they also cite Aqua-Jet's complete spraying coverage for cleaner crops — the fact that it puts the spray where they want it . . . in the pattern they want . . . with uniform mixed spray material . . . at least possible waste. They also like its rugged simplicity of construction that means least and simplest maintenance. Their endorsement is a good guide for your selection of spraying equipment!

3 REASONS FOR SUPERIOR PERFORMANCE

AQUA-JET Heads
Adjustable impinging jets give any desired pattern with lowest pressure drop.



MECHANICAL AGITATION
Spray material is always thoroughly mixed — never too "strong" or too "weak".

HIGH PRESSURE PUMP
Supplies the powerful punch needed for long range projection and complete coverage.

See your CARDOX Aqua-Jet dealer or write us for his name.

CARDOX CORPORATION
BELL BUILDING • CHICAGO 1, ILLINOIS

Factories at:

San Jose
California

Monroe
Illinois

Ottumwa
Iowa

LIQUID NITROGEN

(Continued from page 21)

spread the necessary nitrogen to 25 acres of apples in one-half hour. The amount applied was equivalent to nearly two tons of dry ammonium nitrate.

The unloading from tank car to tank truck was speeded up by the use of the air compressor on a power pruner. Instead of using a pump to move the liquid from car to truck, air was pumped into the car and the solution forced out through hoses. Only five to 10 minutes, depending on the amount of pressure used, was necessary to fill the 500-gallon tank.

Savings

Price is always a factor when buying fertilizer in carload lots. The liquid nitrogen was delivered at Shelby at about \$3.50 per ton less than the cost of an equivalent amount of ammonium nitrate. This alone was a saving of over \$100 on the carload.

Savings on labor and time were the big advantages, according to the Foxes. There are always many jobs in the spring that must be done in the orchards. These include pruning, hauling brush, dormant spraying, and dozens of other jobs. Speeding up the fertilization work leaves more time for the other activities. The two men who operated the spray guns were left in the orchard to work while Floyd was filling the tank.

There are also disadvantages in the use of this type of nitrogen: 1) It must be applied when the material arrives regardless of weather or ground conditions. 2) Purchase must be made in carload lots which limits its use to large growers or distributors. 3) The material cannot remain in the spreading equipment over two hours because of the danger of crystalizing out at low temperatures. 4) Application must be made while the trees are still dormant as the rapid method of distribution causes some material to get on the branches, which would cause injury to new growth.

Floyd feels that the advantages far outweigh the disadvantages. He likes the idea of spreading nearly 30 tons of nitrogen without lifting a bag or without walking over the hills on which many of their orchards are located. Two years' experience has convinced him that power equipment beats the old hand method of spreading nitrogen fertilizer.

THE END

One of the keys to success in hiring good, intelligent workers and holding them from year to year is attractive, comfortable housing. Send \$1 for working drawings showing construction details of 3-Room Tenant House, which can be arranged in single or double units, to AMERICAN FRUIT GROWER, Plans and Booklets Department, Willoughby, Ohio.

PARATHION KILLS PINE MICE

LAST April Morris Crumpacker of Crumpacker Orchards, Roanoke, Virginia accidentally discovered that parathion will kill pine mice.

Morris and his helper had just finished spraying the orchard with parathion and had a little spray left in the tank. This they let run out around a young tree. Before they left, pine mice started coming out of their runways where the spray had entered. Some barely made it out into the open before they died, others lived a few minutes.

This gave Morris an idea, so he filled up the 500-gallon tank with water and added three pounds of 15 per cent parathion powder. He started soaking the ground under the trees of Shotwell Delicious, the variety having the worst mouse injury in the orchard. It took about 50 to 75 gallons per tree.

No sooner had the parathion mixture been applied than mice started coming out in all directions. Some gasped for air and died and others lived for various lengths of time in a kind of staggering condition. But Morris reports that he caught some of them, caged them, and waited to see what happened. Not one mouse lived.

In the fall of 1953 Morris treated his 250-acre apple orchard and figured it cost him about 30 cents a tree. Maybe he has found a way to control that hard-to-kill orchard pest, the pine mouse.

—Eldon S. Banta.

KEEP AN EYE ON OLIGOMYCIN

IT has long been felt that antibiotics such as penicillin and streptomycin might be helpful in fighting fungus diseases of plants like apple scab and leaf curl. However, to date only one antibiotic, actidione for cherry leaf spot, has proven worth while. On the other hand bacteria diseases like fire blight seem to be yielding to antibiotics.

A newcomer on the scene seems to be effective against many plant disease fungi, and at the same time it is harmless to bacteria. The new antibiotic is called oligomycin and was discovered by University of Wisconsin scientists, Elizabeth McCoy, W. H. Peterson, and Robert M. Smith.

Further tests are needed to learn more about the new antibiotic. In preliminary tests it has shown promise. For instance, one requirement for a good antibiotic to be used against soil borne plant diseases is stability. Oligomycin does not lose its activity over a wide range of soil pH and temperature conditions. It will be interesting to watch the progress of this newest of the antibiotics.

MARCH, 1954

STOP



CHIPMAN Stops 'em dead!

This season use Chipman sprays and dusts to stop insects, diseases and weeds. These chemicals are backed by over 40 years of manufacturing experience. Each product is made under the most careful chemical control and supervision, and all products are thoroughly tested in the field.

You can depend on Chipman sprays and dusts to do a good job!

HI-TEST LEAD ARSENATE
DDT SPRAY POWDER
PARATHION SPRAY POWDER
BENZAHEX SPRAY POWDER
ARAMITE SPRAY POWDER
CUBOR (Rotenone) DUSTS

COPPER HYDRO BORDO
BASIC COPPER FUNGICIDE
DRY LIME SULFUR
WETTABLE SULFUR
FIRE BLIGHT DUST

ATLACIDE—Weed Killer
2,4-D WEED KILLERS
BRUSH KILLER

AGROX & MEMA
(Seed Protectants)

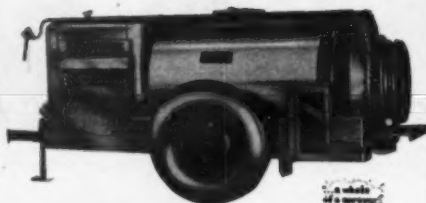
CHIPMAN CHEMICAL CO.
Dept. K, Bound Brook, N. J.

WRITE FOR
1954 Products Booklet
and Special Circulars

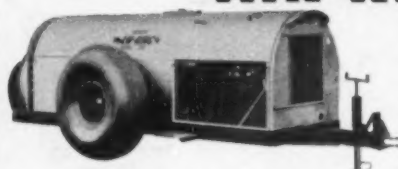
An Advanced One-Man Air Blast Sprayer For Every Grower...

HURRICANE®

The outstanding new sprayer. Two, 26" axial flow fans mounted with opposed blades and special balling (Patent Applied For) deliver 45,000 C.F.M. at 135 M.P.H. with absolutely uniform air volume and velocity over entire radius of fan housing. Applies concentrate, semi-concentrate and dilute sprays. The most advanced air blast sprayer built today.



AIR KING

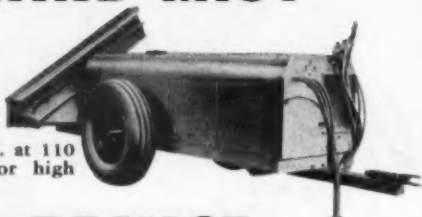


Outstanding value and performance per dollar of price. Air velocity up to 135 M.P.H. For concentrate and dilute sprays. The Hardie pump in this sprayer delivers 30 G.P.M. at 400 P.S.I. assuring complete atomization of spray liquid. Discharge valve for hose connection makes this big capacity and

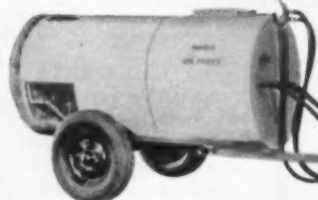
high pressure available for hand gun spraying when desired.

ORCHARD MIST

Amazing performance features this great concentrate sprayer which will operate successfully even in the worst weather. Discharge readily adjusted by tractor seat controls for wind velocity, direction, size and shape of tree. Delivers 22,000 C.F.M. at 110 M.P.H. Can also be used for high pressure hand gun spraying.



AIR PRINCE



All the advantages of air blast spraying are provided at low cost in the Hardie Air Prince, specially built for the grower who doesn't need the larger Hardies. For both concentrate and dilute sprays. Delivers air velocity up to 140 M.P.H. Complete control of air stream and spray pattern from tractor seat. Can also be used for high pressure hand gun spraying.

BLO-SPRAY



Convert your old high pressure sprayer to an air blast machine with Hardie Blo-Spray, the blower and engine unit that comes complete in one package, ready to install and use. Nothing more to buy—you get everything—Wun-pull control valves, two line strainers and all fittings. Does not interfere with hand gun spraying. Two sizes.

LOOK TO HARDIE FOR

Air blast and high pressure sprayers—Power Dusters—Rain Control Portable Sprinkler Irrigation Systems—Pumps—Pipe—Couplers—Valves and Fittings. Ask your dealer—write for catalog.

HARDIE

DEPENDABLE EQUIPMENT

SOLD AND SERVICED

The Hardie Manufacturing Company,
Hudson, Michigan.

3825 Sante Fe Ave., Los Angeles 58, Calif.
1435 N. W. Northrup St., Portland 9, Ore.

Please send catalog.

Name _____

Address _____

City _____

State _____



Young apple tree (wild stock) which has been grafted with three old-time favorite varieties.

GRAFTING OLD FAVORITES

Propagating wood no longer available commercially

By ROSCOE BRUMBAUGH

NO one will question the quality and deserved popularity of such commercial fruits as Bartlett pears and McIntosh apples. There are many persons, however, and even some commercial growers who retain a strong liking for old favorites of a generation or so ago, found perhaps in the orchards of their childhood but preserved nowadays only in widely scattered localities.

I have found a great deal of personal satisfaction in grafting some of my own special favorites which are now growing alongside the standard fruits of the day. Not the least part of this satisfaction is derived from locating the



Grafted pear tree, junction of light and dark bark showing where grafting was done.

AMERICAN FRUIT GROWER

desired variety; perhaps in an old abandoned orchard, perhaps along a busy highway or in an ancient fence-row. Leads are sometimes furnished by friends, and in some cases even strangers will offer help in this pleasant kind of detective work.

For anyone not practiced in the art of grafting, complete and easily followed instructions will be found in a booklet issued by the USDA entitled, "Propagation of Trees and Shrubs." Order it by number, 1567, enclosing 15 cents in coin or money order (not stamps) to Superintendent of Documents, Government Printing Office, Washington, D. C.

My own efforts in fruit growing were started rather late in life, and I recall a remark made by a neighbor, "You are planting for posterity." But most of the trees have been bearing now for some years, proving once again that prophecy is never quite safe.

As with most projects, success in finding scions for grafting will depend largely on your own perseverance. In my own case I have had much help from friendly neighbors and from boyhood acquaintances. But there are numerous ways of spreading the news of your special interest—your local newspaper, your farm or trade paper, among others.

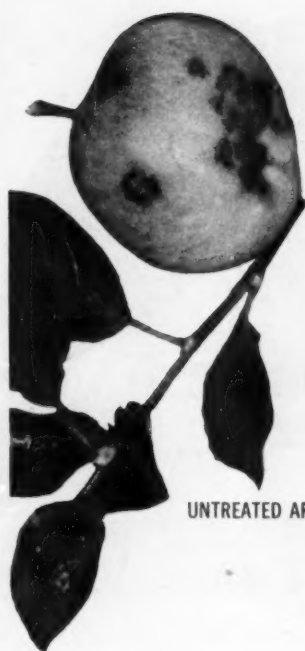
Surprises will come, as they have come to me. For instance, last fall I received a package about the size of a shoe-box from a poultryman in a neighboring state. My first thought was maybe a dozen eggs. In this box, so carefully mailed, was one lone apple, of a kind I had never seen, and from a man I had never met.

Naturally the time to locate the trees from which scions are to be taken is in the fruiting season; the scions themselves must be cut in the winter or early spring. In my neighborhood I have been able to find young wild trees growing on waste land, which when transplanted to my ground became suitable stock for grafting. THE END

Fruit Production at a Glance

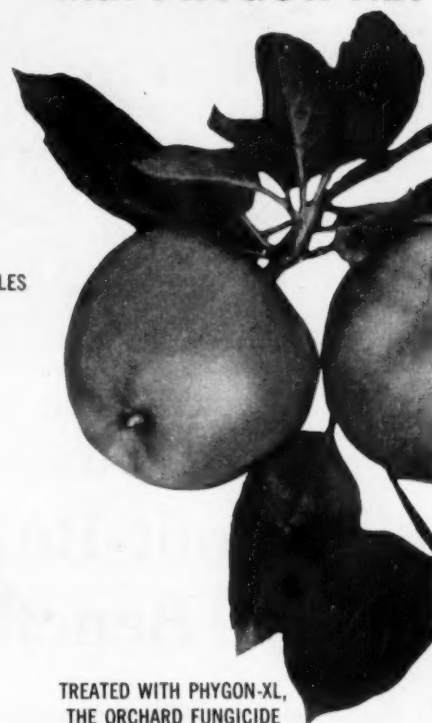
	Average 1942-51	1952	USDA Feb. 1, Est. 1953
Oranges			
Calif., all	46,265	45,530	36,200
Navels & Misc.	16,841	16,630	14,400
Valencias	29,424	28,900	21,800
Florida, all	55,080	72,200	86,000
Temples	924*	1,700	2,000
Early & Mid-season	29,231	40,600	48,000
Valencias	25,110	29,900	36,000
Other States	4,665	1,950	2,550
Total Early & Midseason	49,746	60,080	66,025
Total Valencias	56,264	59,600	58,725
Tangerines	4,340	4,900	5,200
Grapefruit			
Florida	29,820	32,500	38,000
Texas	15,342	400	1,100
Other States	6,084	5,460	5,220
Lemons	12,722	12,590	13,000

*Short-time average.



UNTREATED APPLES

More and better
apples and peaches
with **PHYGON-XL!**



TREATED WITH PHYGON-XL,
THE ORCHARD FUNGICIDE

Bushels of
extra dollars
for you!

It costs but a few cents per tree to apply Phygon-XL, for it's the *least expensive organic fungicide* you can use. But more important, you'll market far more "1" apples for far greater profits. Phygon-treated apples ripen more uniformly. You'll have fewer "rejects" because Phygon-XL, when properly applied, gives you almost 100% apple scab control.

Besides apple scab, Phygon-XL effectively controls bitter rot of apples and peaches, California blight of peaches, brown rot and blossom blight of peaches, peach leaf curl and many other fungus diseases. Phygon-XL is simple to apply. It mixes effectively with the most commonly used fungicides and insecticides, is harmless to pollen and bees and does not affect odor or flavor of the fruit.

Order Phygon-XL or formulations containing Phygon from
your local supplier today and watch your profits grow.



Naugatuck Chemical

Division of United States Rubber Company
ELM STREET, NAUGATUCK, CONNECTICUT

producers of seed protectants, fungicides, miticides, insecticides, growth retardants, herbicides; Sperton, Phygon, Aramite, Synklor, MH, Alanap.



If you're using "Fermate,"
you're getting all these
**Profit-Building
Benefits**

- 1. Higher yields**—As much as 60 boxes per acre more good fruit than with any other fungicide. According to 5-year experiment-station tests, yields averaged 210 boxes more per acre with "Fermate" than with sulfur.
- 2. Better disease control**—Eleven years of use and experiment-station tests show "Fermate" controls more diseases than any other fruit fungicide. On apples, "Fermate" controls scab, cedar-apple rusts, bitter rot, black rot and blossom-end rot, sooty blotch and fly speck, apple blotch and Brooks spot.
- 3. Healthier trees**—"Fermate" is a mild fungicide that lets trees grow normally, killing off diseases without chemical burn. Trees show gains each year in vigor, foliage, bloom and fruit set.
- 4. Better fruit finish**—"Fermate" doesn't burn or scald fruit, helps prevent blemishes. Keeps apples firm with good storing qualities.

Yes, "Fermate" gives proof, not promises, of outstanding disease control and improved orchard productivity. Use "Fermate" this year and get all these benefits.

On all chemicals always follow directions for application. Where warning or caution statements on use of the product are given, read them carefully.



Fermate®

Ferbam Fungicide

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

JERSEYBLACK— A NEW BLACKBERRY

JERSEYBLACK is a new variety of blackberry just named by the New Jersey State Horticultural Society and the New Jersey Department of Horticulture, Rutgers University.

Jerseyblack fruits are firm, large, tasty, and of very good quality. Plants are productive, too, yielding as much as four and one-half quarts per plant the second season. Under some conditions production may even exceed this.

In the area of New Brunswick, N. J., first pickings begin about July 15. The peak harvest comes around July 25 and the end in early August, which makes a fairly long picking season.

One excellent feature of this new variety is that it produces practically no "nubbins," those tiny, seedy fruits. Berries are all of uniform size throughout the season.

The plant is a vigorous grower, thorny, and of the semi-trailing type. A two-wire trellis similar to a grape trellis serves exceedingly well. Jerseyblack is the result of crossing two older varieties, Evergreen and Eldorado.

You might want to try a few plants of Jerseyblack in your garden this year. Plants can be secured from the Small Fruits Industry Committee, R. D. 3, Princeton, N. J. You better order quickly as only a limited number of plants are available this year.—*E. S. Banta*

FROST PROTECTION WITH 2,4,5-T

IF further research supports a startling discovery by University of California scientist Dr. Julian C. Crane, frost protection of fruits will become much simpler than orchard heating.

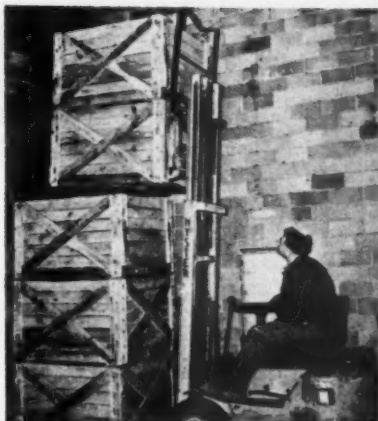
Last spring after three degrees of frost for a period of four hours, three apricot trees were sprayed with 2,4,5-T. Only one-fourth of each tree was treated. No fruit worthy of harvest developed anywhere in the orchard except on the treated sections of the three trees. Here the large and luscious fruit hung heavily.

The treatment did not bring the seed back to life, but the hormone spray seemed to replace the function of the seed in development of the fruit.

Dr. Crane says it is not possible to predict at this time how effective the new treatment may be. Further research will show what fruits will respond and how effective the growth regulator will be under various degrees of frost and periods of time.—*McCall Smith.*

Read the advertisements and mention AMERICAN FRUIT GROWER when you write for information.

AMERICAN FRUIT GROWER



Rodney Bull is shown stacking two 14-bushel crates on Cherry Hill Farms, Muskegon County, Michigan. The large-sized crate saves both labor and fruit in the harvesting and handling of apples.

BIG LABORSAVER

A 14-BUSHEL crate, hailed as a great laborsaver in the harvesting of apples, was recently demonstrated to fruit growers and agricultural specialists at the Cherry Hill Farms of John Bull and Sons, Muskegon County, Michigan.

The crates are handled in the orchard with a mechanical fork lift attached to a tractor. Trucked to storage, they can be stacked five or six high until taken to the sorters.

The crates are 36 inches wide, 43 inches long, and 24 inches deep. They are made of half-inch thick oak slats four inches wide, and the inside edges are beveled to avoid bruising of fruit.

They are constructed by the O. J. Briggs Lumber Company of White Cloud, Mich., and resulted from the desire of Mr. Bull to have a few large crates in which to place cider apples. They were so convenient it was almost inevitable that they should be used for good apples also.

They have many advantages, being more quickly loaded and unloaded. Pickers save time because they do not have to move crates, and leveling is eliminated. Picking bags can be dumped more readily into the larger crate than into bushel crates, and the large crates ride better over uneven orchard ground.

The crate is attached to a pallet and when packed in storage these pallets allow a three-inch air circulation space every 24 inches.

Don Hootman, Michigan State College extension horticulturist, said the crate appears to be a promising idea which would eliminate bruising of fruit and save on hand labor. He said it should last the lifetime of an orchard, or about 20 years.—John A. Chisholm.

MARCH, 1954



PREVENT DAMAGE with Du Pont MARLATE[®]

Methoxychlor Insecticide

Dependable "Marlate" gives consistently high kill of curculio. It prevents egg-laying scars and feeding punctures—gives protection early and late in the season. When you use "Marlate" for curculio, you get top control of codling moth, too.

Gives fine-fruit finish

"Marlate" contributes to fine-fruit finish. When used in combination with "Fermate" or other organic fungicides, russetting and other chemical injury are no problem.

Minimum residue hazards

In late sprays for apple maggot, "Marlate" provides protection close to harvest, yet presents no problem to the persons who eat the fruit. This characteristic of "Marlate" is also a great advantage for insect control on vegetables and forage crops.

For cherry fruit fly . . . there's nothing better than "Marlate." From egg-hatching time till close to cherry harvest, "Marlate" gives excellent kill with no injury or effect on vegetative growth.

See your supplier now for "Marlate" 50% technical insecticide. It will pay you well to use "Marlate" this season.

On all chemicals always follow directions for application. Where warning or caution statements on use of the product are given, read them carefully.



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BETTER THINGS FOR BETTER LIVING
... THROUGH CHEMISTRY

MARLATE[®]

Methoxychlor Insecticide



more high-grade
fruit with

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more
sales dollars
for you!



Before mites strike, be prepared with Aramite, today's safest strongest mite-killer—be prepared for higher yields of high-grade apples and peaches—hence more money at market-time.

Aramite gives outstanding control of European Red Mite, Pacific Mite, Two-Spotted Mite and Clover Mite. Agricultural authorities throughout the country enthusiastically report new Aramite

achievements with deciduous fruit, year after year.

Aramite-Sulfur Compatibility Among Its Advantages. All-inclusive tests prove that Aramite works very well with sulfur as with most other insecticides. In addition, Aramite is extremely easy to apply, is harmless to mite-killing insects and its long residual effect saves you reapplication costs.

Order Aramite or formulations containing Aramite from your local supplier today and watch your profits grow.



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Division of United States Rubber Company

ELM STREET, NAUGATUCK, CONNECTICUT

producers of seed protectants, fungicides, miticides, insecticides, growth retardants, herbicides: Spergon, Phygon, Aramite, Synklor, MH, Alanap.



Undisturbed litter mulch usually is associated with a continuous growth of vegetation.

The LITTER MULCH SYSTEM OF ORCHARD MANAGEMENT

Surface soil is protected and tree roots thrive
under the protective blanket of decaying vegetation

By R. E. STEPHENSON

Oregon State College

NATURE'S most effective mulch for tree production is found in the forest. Leaves, twigs, and sometimes larger branches and rotting stumps and logs protect the enriched surface soil, where tree roots thrive and multiply to gather the life-giving water and nutrients necessary for growth.

Some very good orchards are managed so that there is a continuous litter mulch composed of living and dead matter under thrifty trees. Perhaps the most notable example of this type of orchard management is the Rory Collins pear orchard in the Hood River Valley of Oregon, where a litter mulch some six inches deep under trees is continuously maintained.

One advantage of the litter mulch is the unsurpassed mellow, porous physical condition of the soil under the mulch, a condition that is ideal for the best development and functioning of the root system of trees. Roots are not only more abundant in the soil under the mulch but they also develop pro-

fusely in the lower part of the rotting litter.

No chemical property of the soil is more important to the growth and productivity of trees than the physical granular, sponge structure of a mulched soil, and no other method is quite as effective in maintaining this desirable soil structure as a litter mulch.

A continuous mulch eliminates the expense of machinery and labor for tillage. The millions of earth worms, bacteria, fungi, insect larva, and other organisms that thrive in undisturbed soil and litter are nature's tillers. They gradually mix the rotting litter with the enriched mellow soil beneath, and these diligent workers make no charge for the excellent job they do.

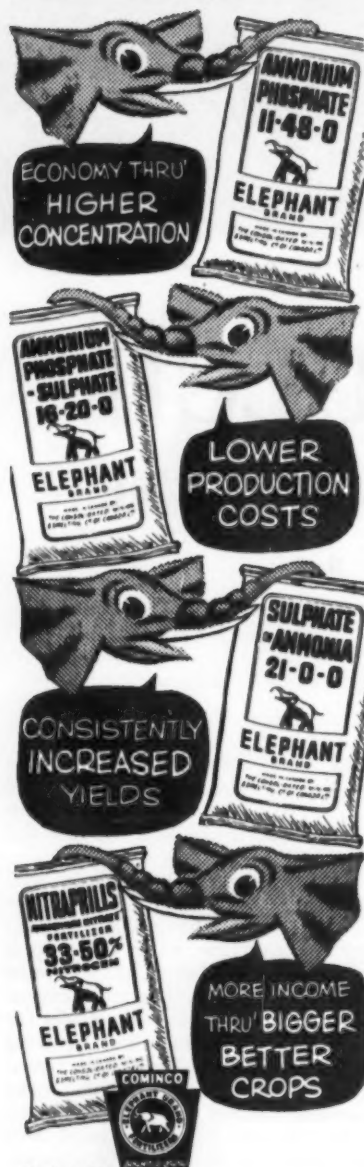
The undisturbed litter mulch is usually associated with considerable growth of vegetation, a more or less continuous cover crop which adds its yearly quota of debris to the rotting litter beneath. Such a cover crop may

need some control, by mowing or smothering where rainfall is limited and there is no irrigation. But the mulch helps to conserve surface soil moisture.

There is comparatively little competition between two crops that occupy the same land at one time, except for moisture, when one crop is tall and the other short, as in the case of trees and grass. The trees expose their green foliage to the sunlight far above the competitive low growing grasses and weeds. Incidentally, some weeds, mustard for example, make excellent orchard cover crops.

And the roots of trees in good, deep soil, reach far below the penetration of the grass roots to obtain water and nutrients. Since there is no cover crop removed, there is no competition for nutrients (except a temporary one), since all the nutrients become available to the trees as the cover crop rots. Enough fertilizer can always be used to feed both cover crop and trees, so

Be Elephant-wise ...Fertilize with **ELEPHANT BRAND FERTILIZER** (STRAIGHT OR IN MIX) for



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San Francisco • Portland • Seattle
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IT PAYS TO FERTILIZE

that there need never be even a temporary nutrient shortage for tree growth.

The large (even overgrown), vigorous trees in the Collins pear orchard, with never a crop failure, are good evidence of the efficacy of the mulch system for tree fruit production. Soils do not have a better physical condition, nor are trees more thrifty and productive than are those in the Collins orchard. The mellow mulched soil is quickly and easily penetrable to water even during heaviest rains, or in irrigation. This is in contrast to the sealed and impervious soils sometimes found in clean cultivated orchards. There is no runoff and therefore no erosion

HANDY ANDY



Another idea in pick-up nut harvesters is the small Goodwin machine recently demonstrated at Kelseyville, Calif. The same rotary rake system is used as in the larger tractor-mounted Goodwin harvester.—F. Hal Higgins.

where all the water enters the soil, and comparatively little leaching where a cover crop with a profusion of fine feeding roots assists the trees in absorbing nutrients as fast as they are liberated.

The litter mulch can be renewed or augmented with practically any kind of organic material that may be available. One berry grower has used principally straw from grass seed production for maintaining a continuous deep mulch, in this case with little or no cover crop and no irrigation. The mulch is renewed as rotting makes renewal necessary. In the Collins orchard leaves and prunings from the trees, some farm manure, and sawdust are used, with such volunteer growth as occurs on a well fertilized and irrigated soil. Legume straws are especially valuable for mulching. Sawdust is an excellent mulching material because it is long-lasting. There is little or no fertility in sawdust, however, while vetch and clover straw are comparatively rich in the nitrogen, phos-

phorus, potassium, and other elements that are necessary for the growth of all plants.

Fertilizer application, such as the various nitrogen carriers, or carriers of other needed elements, can be applied by broadcasting on top of the mulch where the rains together with the various organisms that are abundant in all soils will get the fertilizer into the soil and finally into the roots of the trees.

No other system of management is likely to prove more effective or more profitable than the mulch system for orchard management, provided the moisture problem can be satisfactorily handled. A mulch sufficiently deep to smother all competing vegetation is practical on a small scale, but on a large area irrigation may be the only moisture solution where the mulch consists of both living (a cover crop) and dead material. **THE END**

CANNERS MEET

VERNON WHITNEY of Walla Walla Canning Company was elected president of the Northwest Cannery Association to succeed James E. Klahre, Hood River Apple Growers Association manager, at the 40th annual convention of the cannery in Portland, Ore., in mid-January.

Berkely A. Davis, Rogers Canning Company, Milton-Freewater, was named first vice-president, with Norman W. Merrill, Blue Lake Packers, Salem, as second vice-president. C. R. Tulley, Portland, was re-elected executive vice-president.

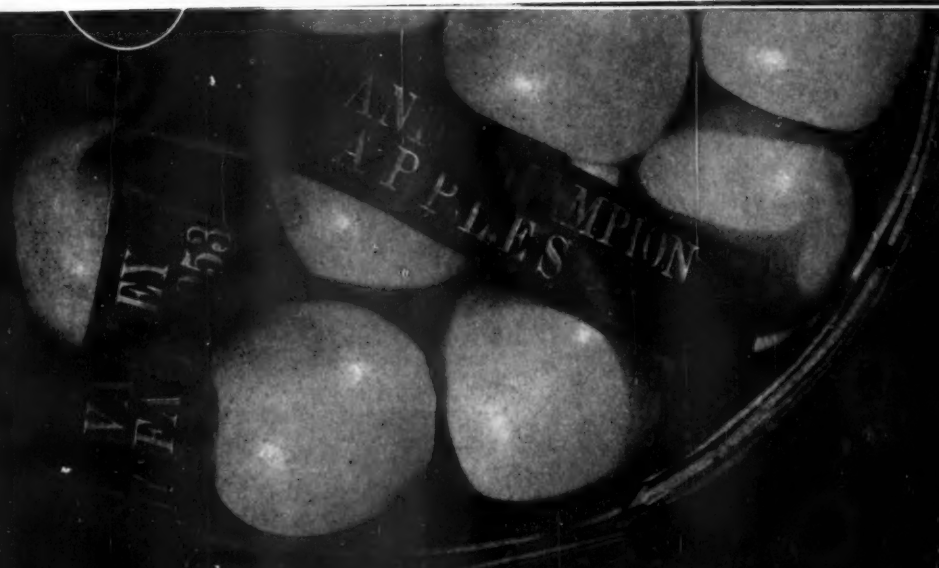
New board of directors is John Hilstrom, Portland; W. S. Miller, Milton-Freewater; Fred Moss, Payette, Idaho; and Melvin Millett, Salem.

E. E. Willkie of Washington, D.C., brother of the late Wendell Willkie and vice-president of the National Cannery Association, was the featured speaker at the membership luncheon.—*Harold and Lillie Larsen.*

BEAN APPOINTMENT

APPOINTMENT of Ronald G. Clarke as western operations general sales manager of the John Bean Division of Food Machinery and Chemical Corporation, San Jose, Calif., has been announced by Hubert L. Byrd, F.M.C. vice-president in charge of the division. Mr. Clarke was assistant agricultural sales manager for the John Bean Eastern Division, Lansing, Mich.

Products manufactured or distributed by the John Bean Western Division include agricultural power sprayers, irrigation equipment, fruit and vegetable cleaners and graders, and garden sprayers and dusters.



How would you like:

"\$1.75 extra apple profit per bushel."

"Excellent scab control."

"Tree-ripened peaches, free from brown rot."

"Baby skin finish on apples."

"Larger size fruit—better color."

Enthusiastic comments from growers using an ORTHO Spray Program featuring the new fungicide ORTHOCIDE. You, too, can get better fruit prices, earn higher crop profits. For full details turn the page:

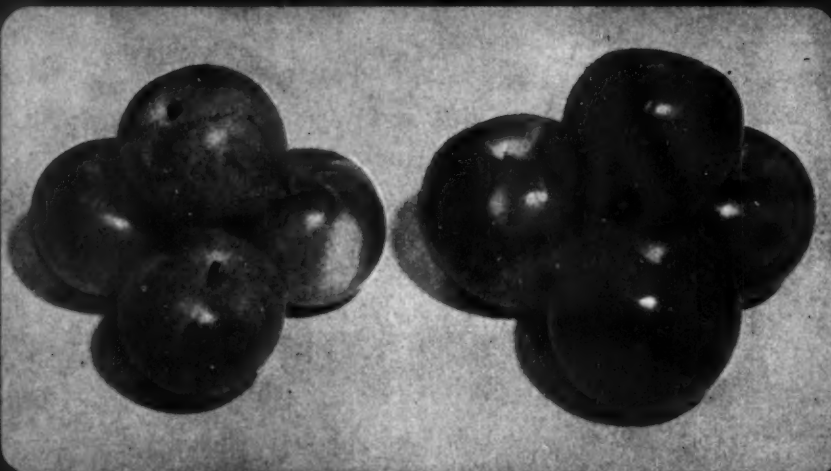


Just look at these results of **ORTHOCIDE** on apples, peaches, strawberries and cherries.

Read the case histories of leading growers. Then ask yourself:
"How can I afford *not* to use **ORTHOCIDE** in 1954?"

ORTHOCIDE contains the new fungicidal chemical Captan—chemically different from other fungicides now used—and effective in controlling a wide variety of plant diseases.

ORTHOCIDE is a top quality formulation of Captan with fine particle sizes and superior sticking, wetting and spreading qualities. It is especially designed and tailored to fit an **ORTHO** program.



Stayman Winesaps from the Readinger orchards in Fleetwood, Pa. Apples at right were sprayed with **ORTHOCIDE**; those on left were sprayed with another material. Difference in color and finish can mean as much as \$2 a bushel in selling price.



Superior finish and healthier foliage reported by prize-winning growers

Austin and Wayne Readinger, Route #1 Fleetwood, Pa., have been raising prize-winning apples for the last 10 years. They own 15 acres of Golden and Red Delicious, Stayman Winesaps and McIntosh. On their **ORTHOCIDE**-treated fruit in 1953 the Readinger's won 54 ribbons. Says Wayne Readinger: "**ORTHOCIDE** gives a superior finish—so much so that the judges at one fair remarked at the 'baby skin finish' of our fruit. Also we got healthier foliage on our **ORTHOCIDE**-sprayed trees."

Wayne Readinger displays a few of the trophies awarded his apples at Pennsylvania county fairs in 1953.

Apples, showing contrasting results of two spray programs. Standard program previously recommended (left) using sulfur and ferbam. Note the improved size, finish and color where ORTHOCIDE was used (right).



Peaches, picked from an experimental plot in a New Jersey orchard, then held at room temperature for seven days. Peaches in the top basket were untreated; lower left, ORTHOCIDE-treated; and lower right, sulfur-treated. Note the high rate of rot decay in sulfur-treated and untreated peaches. ORTHOCIDE-treated fruit is free from rot, has fine color and finish.



Tests on Bing cherries in Yakima, Wash., show how ORTHOCIDE controls costly after-harvest decay and mold. Treated and untreated fruit was packed, then stored for 9 days at 40°F., then held at room temperature for an inspection period of 33 hours, and again placed in cold storage for 7 days at 39°F. In the untreated cherries (left) there was 9.33% of decay ... only 1.33% in the ORTHOCIDE-treated cherries (right).



On strawberry tests in Maumee, Ohio, it took 86 untreated berries (left) to fill a quart box. ORTHOCIDE-treated berries were so much larger, it took only 63 berries (right) to fill a box. New Jersey growers have reported yields and selling price of ORTHOCIDE-treated strawberries increased 50% due to control of Botrytis rot and improved size, firmness and color of fruit.



For more case histories proving how ORTHOCIDE increases grower profits, please turn the page.

Better prices on apples; 50% less loss on strawberries—thanks to ORTHOCIDE



Cheever H. Newhall, Pinnacle Farm, New Hampshire

New Hampshire grower received extra fancy grade on apples by using ORTHOCIDE program.

Comparing disease control resulting from an ORTHOCIDE program last year with his former spray schedule using other materials, Cheever H. Newhall, Pinnacle Farm, New Hampton, New Hampshire says:

"I got 30% cleaner fruit for every dollar spent for scab control on the ORTHOCIDE program as compared to previously used fungicide combinations. This year's crop is by far the best fruit I have ever raised—the color, finish, bud set and tree vigor is outstanding. With ORTHOCIDE I saved 50% of my crop for Fancy Grade last year."

New Jersey orchardist received 50% better return on ORTHOCIDE-sprayed peaches and strawberries.

Frank Luccarelli, Keyport, New Jersey, reports the following experiences on his ORTHOCIDE-treated fruit:

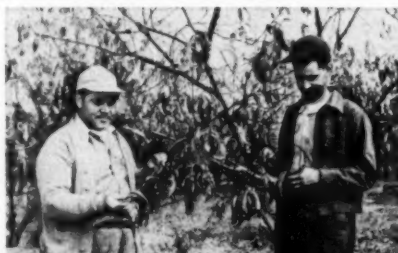
Apples—Raises 8 acres of Golden Delicious. In past years he has had 50% loss due to russeting. This year with ORTHOCIDE he harvested clean fruit most of which was 3" or better. He packed 700 boxes 3½" or better. Bigger apples can bring \$1.75 more profit per bushel.



Frank Luccarelli, Box 70, Keyport, New Jersey

Peaches—ORTHOCIDE-treated peaches had better size and color; healthier tree foliage and less injury from peach canker. These peaches were worth an additional 75¢ per bushel.

Strawberries—In former years, Mr. Luccarelli lost up to 40% of a crop due to gray mold and soft spot which would appear 4 or 5 days after picking. No such loss after spraying with ORTHOCIDE and the plants were healthier.



Tony (left) and Sam Ambrosino, Keyport, New Jersey

100% brown rot control reported on ORTHOCIDE-sprayed peaches.

Ambrosino Bros., Box 63, Keyport, New Jersey write: "We had previously used sulfur on our 14 acres of peaches and lost 50% of Jerseyland Variety to brown rot. ORTHOCIDE gave us 100% control of brown rot—therefore a 50% better return. Our ORTHOCIDE-treated peaches will stand up in summer's heat for 3 days which means we can safely pack more at a time and save in labor and hauling charges." For the first time since the brothers have been raising peaches their fruit is fine enough in size and color to compete in the city markets.

Strawberries—Previously the Ambrosino Bros. could expect 50-90% loss to Botrytis rot on Robinson variety. This year after using ORTHOCIDE they had less than 1% rot. Crop yields were increased by at least 50% due to control of rot, and selling prices of crop increased 50% due to larger size, firmness and color of fruit.

Increased profit of ORTHOCIDE-sprayed peaches 75%.

Michael Donaruma, Keyport, New Jersey, has 15 acres of peaches, 4 varieties, and sells both retail and wholesale. He formerly used sulfur—now uses ORTHOCIDE and reports: "Not one complaint from dealers about rotting peaches—instead many comments about the surprising length of time our peaches remained firm." He increased his profits on ORTHOCIDE-sprayed peaches 75% last year; got premium peaches from ORTHOCIDE-sprayed fruit.

Marketed premium peaches in Pennsylvania

Robert Wendling of Wendling Bros., Macungie, Pa., picked his peaches ripe last summer. Despite severe heat and with expectancy of complete loss within a few hours—the fruit held up for two days until the supply was sold out. Only two baskets out of seventy-five were

lost. Mr. Wendling's ORTHOCIDE-treated peaches stayed on the trees until fully ripened. He picked the big, ripe, fully colored peaches each day for as long as 8 days until the crop was completely picked, thus getting premium fruit for daily sales to retail markets.

T.M. & REG. U.S. PAT. OFF. ORTHOCIDE, ORTHO, ORTHOPHOS, VAPOPHOS, PERSISTO, VAPOTONE, TAG, ORTHENE, ORTHOTRAN

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Don't tie yourself down to old fashioned disease controls that place a ceiling on your profits. Cash in on higher net profits this year. Other outstanding ORTHO products for use in ORTHO programs are:

ORTHOPHOS 4 Spray	ORTHO Standard Lead Arsenate	TAG Fungicide
VAPOPHOS 15 Wettable	PERSISTO Wettable	ORTHENE 3-D Wettable
ORTHOTRAN 50 Wettable	VAPOTONE XX Spray	ORTHO-MITE 15 Wettable

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Goldsboro, N.C.	Orlando, Fla.	Phoenix, Arizona

THE FUZZLESS PEACH

Fred Anderson, fruit breeder, is patiently striving to develop the ideal freestone nectarine

By RAYMOND COPPOCK

IN California's fertile Central Valley an unassuming farmer-scientist is on the track of a fuzzless peach—or ideal nectarine—which will be freestone and the size of an Elberta peach.

"It's sure to come," declares plant breeder Fred Anderson. "If I don't get it, somebody else will."

In 20 years of searching for the ideal nectarine, Anderson has patented an impressive number of new fruit varieties and thoroughly revitalized the nectarine industry.

For the last five years Le Grand nectarines—which are as close as he's come to his ideal—have sold over the nation at prices higher than any other fruit on the market. Today, only about 800 acres are producing Le Grands. But the giant, yellow-fleshed fruit has such a name for itself that 80 per cent of all young nectarine trees put in last winter were Anderson varieties, mostly the Le Grand.

The spectacular success of Le Grand is only a half-way point for Anderson, however, for he is still searching for his idea of the perfect fruit—a firm, yellow-fleshed peach, without fuzz.

Fuzz Makes the Difference

Fuzz, he insists, is the only basic difference between peaches and nectarines; grow a giant nectarine and you've really got a fuzzless peach. He points out that other apparent differences, such as taste or color, can be as great between two types of peaches as they are between peaches and nectarines.

But size, though it may not be a basic difference, is a stubborn one. Through the years, patiently cross-pollinating hundreds of peach and nectarine trees by hand, Anderson has searched for a peach-sized fruit with a smooth skin. His best effort so far matches only the smaller varieties of peaches.

On the other hand, that best effort—the Le Grand—is such a great improvement over its puny, white-fleshed ancestors that Anderson has good reason for his conviction that "the fuzzless peach is sure to come."

Meanwhile, he is improving present varieties. By breeding variations of the Le Grand nectarine he has extended its harvest season more than a month and a half.

And he is working toward the same thing in Santa Rosa plums, one of the fruit-breeding triumphs of his boy-

hood hero, Luther Burbank. "We are hoping to put Santa Rosas into the market from spring until fall," he says.

Almond growers, too, will get a break from Anderson's cross-breeding techniques. Since almonds are among the earliest-blooming of fruits and nuts, growers have been plagued by late frost damage. "What we need," Anderson says, "is a late-blooming, self-fertile variety." Although self-fertility is still in the future, Anderson has late-blooming varieties for commercial testing.

Anderson is convinced, too, that only two problems need be solved to



Fred Anderson's fruit breeding experiments also include crossing the peach and the almond. The fruit (or nut) he is showing above is long like an almond but with peach-like flesh and will never make its mark as a commercial crop but possibly it may be a milestone on the way to a late-blooming, self-fertile almond variety.

put almonds on the market in competition with peanuts. These are late-blooming, self-fertile varieties and complete mechanical harvesting.

But in marketing, the question that fascinates Anderson most still is: "Will nectarines ever replace peaches?"

Anderson, whose motto is "Nobody likes to eat fuzz," thinks it's possible, although he admits that the day won't come as long as nectarines must sell at twice the retail price of peaches. Owing commercial orchards of both, he is convinced that production costs of nectarines can be pared down so they will be comparable with peach production costs—if and when fuzzless peaches are mass-produced.

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Books For Your Orchard Library

WESTERN FRUIT GARDENING

By Reid M. Brooks and Claron O. Hesse

A handbook for the home gardener on fruit varieties; climatic adaptations; soil, water, and nutrient requirements; pruning and propagation; control of diseases and pests. \$4.50

HANNA'S HANDBOOK OF AGRICULTURAL CHEMICALS

By Lester W. Hanna

Contains descriptions of over 500 commercial chemicals. Various common and chemical names and numerical designation of fertilizers, fumigants, fungicides, weed killers, insecticides, rat killers, etc., are given in this 209-page pocket-size handbook. \$3.25

Sent postpaid on receipt of remittance.

AMERICAN FRUIT GROWER

Willoughby, Ohio

Pacific

NEWS AND VIEWS

New Raspberry Is Named and Rain Control Is News Again

Walnut production has been moving steadily north in California but Ventura County has continued to be the number one producing county. However, William Tesche, manager of the California Walnut Growers Association, forecasts that San Joaquin next year will step into first place. He said that walnut growing in Santa Barbara County is holding its own while Riverside and San Bernardino are going down. There is a big increase in production in the Sacramento Valley.

Puyallup Red Raspberry

"Puyallup" is the name of a new red raspberry developed by the Washington Agricultural Experiment Station. The new variety has large, unusually firm berries that have a good red color and a mild, pleasing flavor. It is expected to become an important commercial red raspberry, being larger and firmer than the Washington variety and having better color than the Willamette. Puyallup is the fifth new berry introduced as a result of berry breeding work started

at the Western Washington station in 1928. Others are Washington and Tahoma red raspberries, Northwest strawberry, and a yellow novelty raspberry, the Goldenwest.

Report from California tells of a new growth regulator called "Chemola." By applying at the rate of 300 gallons per acre at the green bud stage on prunes, it is claimed that the hormone spray caused a substantial increase in prune yield and a significant reduction in end cracks.

Expounding upon the philosophy of a fruit grower, R. F. Maultsby, president of the Yakima Fruit Growers Association, says that a fruit grower is forced to be an optimist when one considers all the hazards, uncertainties, and unpredictable elements before a crop is assured and finally accounted for. He advises doing today's work to the best of one's ability, planning the ultimate goal, and not worrying too much about it. Such a state of mind will make for better living and for peace of mind.

Last year Washington cherry growers who subscribed to the rain control program by Jack Hubbard of Olympia were well pleased because the Wapato to Prosser area of the Yakima Valley was the driest part in the state in June. Only area where rain injured the cherry crop was in the Prosser section where not one grower contributed to the program. This year, Edward S. Brown, Selah cherry grower, is sparking a drive for another rain control program. Cost is expected to be \$1.00 a ton for anti-rain insurance. The annual cherry crop in the Yakima Valley is about 15,000 tons.

New Nutritional Spray

"Borospray" is the name of a new spray plant food for fruit trees and truck crops recently introduced by the American Potash and Chemical Corporation. The new spray fertilizer is high in boron content and particularly adapted for use as a foliage spray. It is expected to find widespread application in areas with low boron conditions, particularly in certain sections of northern California, western Idaho, Oregon, Washington, and British Columbia. Active ingredient is sodium pentaborate which is absorbed through the foliage.

William A. Burkett, director of employment for the state of California, has said that he is not satisfied that everything has been done to provide growers with farm workers who are American citizens. Mexican national farm laborers sent more than \$30 million back to Mexico last year, he said, and ways and means should be found immediately to have these millions of dollars paid to American farm workers who are unemployed in California. He urged unemployed farm workers to register for job openings at local offices of the Department of Employment. As a result, William Tolbert, manager of the Ventura Citrus Growers Association, has withdrawn his request for 500 unemployed British West Indians.

100 Years Old

Reaching the venerable age of 100 years is quite an accomplishment especially if vision is still keen and vigor undiminished. This year is the 100th birthday year for the California Farmer and Editor Jack T. Pickett celebrates the occasion with the story of 100 years of service to agriculture. Editor Pickett tells how the California Farmer, then known as the Pacific Rural Press, reported and helped guide the progress of the fruit industry. A famous book on orcharding, California Fruits and How to Grow Them was written by an early editor, Professor E. J. Wickson who held the editorial reins for 48 years. Wickson spent considerable time on the long fight for the co-operative effort of growers. The story of Wickson and other famous figures in California's farm history will be told in coming issues as part of the continuing birthday celebration.

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IT PAYS TO FERTILIZE

ACTIDIONE STOPS CHERRY LEAF SPOT FUNGUS

Promising new fungicide is recommended for further trial to determine its full value

By DONALD CATION
Michigan State College

THE antibiotics penicillin, streptomycin, and aureomycin are toxic to bacteria. Actidione, the first antibiotic to become well established in plant pathology, was announced in 1947 by Whiffen as toxic to fungi only. Shortly after this, Felber and Hamner tested actidione on plants as a growth regulator and also found that it stopped powdery mildew on beans. It is now used to control turf diseases and is promising as a new fungicide for cherry leaf spot.

In 1949 Donald Petersen, then a graduate student at Michigan State College, compared actidione with other fungicides on a block of Montmorency trees infected with leaf spot. The sprays were applied in August. The actidione sprayed trees were the best and greenest of all at the end of the season. The check trees were defoliated. It was evident that actidione killed the fungus without killing the leaf.

Following Petersen's lead, actidione has been tested rather widely on cherry trees from 1950 to 1953. From one to several sprays at one or two parts per million (p.p.m.) controlled leaf spot especially when applied toward the end of the primary infection period, about July 1 in northern cherry regions.

Actidione appears especially useful as an eradicant. Michigan tests indicate that actidione kills the cherry leaf spot

fungus in the leaf even when the fungus in the lesions is active and producing spores. Hamilton of New York found that actidione stops four-day-old infections without producing visible lesions. He also showed that the action was complete in one hour as rains after spraying did not limit the effectiveness as they might for other materials.

All spray materials have limitations and actidione is no exception. The two p.p.m. concentration applied at petal fall adversely affects developing fruit resulting in late-ripening, lighter colored, and occasionally smaller fruit. The effect becomes less noticeable the longer one waits after petal fall to apply the first spray and is less apparent when the one p.p.m. concentration is used.

Applied in full bloom, actidione reduced fruit set up to 100 per cent, but little or no thinning occurred when blossoms were closed. This thinning may be of value for young trees where fruit setting is a nuisance, but otherwise fruit thinning is not wanted for cherries. Actidione also permanently stunts and twists some of the tender, emerging leaves. This effect is not seen on the full grown or later developed leaves and appears of small consequence.

The toxicology of actidione spray is still under investigation. The very small amount contained in the fruit seems insignificant. It is estimated that any one person could eat 3,000 recently sprayed cherries and then only get a dosage

(Continued on page 30)



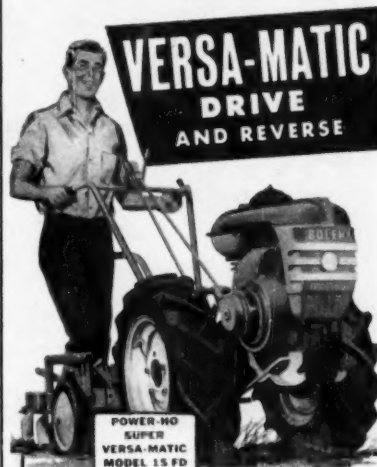
Effect of actidione on nursery trees. Trees on right were sprayed with one application of actidione at the rate of two parts per million; those on left with a standard organic fungicide.

MARCH, 1954

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IRON AGE features will save you time, labor, and spray materials!

If you're in the market for a mist sprayer, you must have specific reasons for wanting one. Whatever your reasons, you'll find Iron Age is the best spraying investment you can make.

LOOKING FOR CONVENIENCE? Iron Age is easy to handle (its light weight permits close quarter work as well as early spraying on soft ground), with controls conveniently located within reach of driver . . . makes spraying a one-man operation.

WANT TO SAVE TIME? Double blowers spray from either or both sides of the machine at the same time . . . capacity up to 19,000 cu. ft. per min. . . . velocity up to 110 mph.

CONCERNED WITH PERFORMANCE? Sprayer features famous Iron Age Pump with nozzles specially designed to deliver proportionate air volume to top and bottom branches. Pump nozzles combined with a powerful fan give thorough penetration and complete coverage without defoliating.

INTERESTED IN MORE PROFIT? You save on repairs because the Iron Age Pump is totally enclosed and sealed for years of trouble-free service . . . you save because Iron Age uses less spray material. And fruit sprayed by Iron Age develops a firmer stem, has less dropage, gives a higher profit on the crop.

For more information about Iron Age Mist Sprayers and what Iron Age features can do for you, mail the coupon below today. You'll be glad you did.



MAIL COUPON TODAY FOR DETAILS

THE OLIVER CORPORATION, Dept. 25, 400 W. Madison St., Chicago 6, Illinois

Gentlemen: Please send me complete information on the:

☐ Iron Age Orchard Mist Sprayer ☐ Oliver Tractor Line.

Name

Address

City

RFD

State

ACTIDIONE

(Continued from page 29)

comparable to that successfully given by mouth for internal fungus diseases. Furthermore, actidione loses strength after several weeks under most conditions and thus there appears little cause for concern as to its residue on fruit. But until certain tests are completed, recommendations for its use on trees in fruit must be withheld.

Actidione appears especially suitable for use in the nursery where leaf spot is generally difficult to control. Three Michigan nurseries—Michigan Fruit Growers Nursery, Emlong Nursery, and Hawley Nursery—had exceptionally good results with this material in the last two years. They reduced the usual number of applications and achieved good disease control. It was also used in a limited way by Stark Bros. of Missouri and C. M. Hobbs & Sons of Indiana.

With a few well-timed sprays of actidione, we have brought trees up to freezing weather with no leaf spot evident. This materially reduced the spore load carried over to the next season. If this were accomplished generally, there

Send 50 cents for plans of a roadside market, conveniently located so you can take care of customers quickly and easily. Plans include directions for movable racks to make it possible to maintain an attractive stand in accordance with supply and demand. An overhanging roof affords protection for the customer. Send remittance to **AMERICAN FRUIT GROWER, Plans and Booklets Department, Willoughby, Ohio.**

could be some delay in applying the first fungicide spray the following year. This would allow the program to begin at first cover when the one p.p.m. dilution appears to have little harmful effect on fruit. But insecticide practices would need changing as lime added for prevention of arsenical injury might reduce the effectiveness of the actidione.

Grower reaction to actidione last season was enthusiastic, but all new materials require widespread use over several seasons to determine their full value. Certainly this material has shown remarkable results in experiments and it will probably find a place in the cherry program, particularly for stopping established infections of cherry leaf spot and powdery mildew.

At present, actidione is suggested for trial at two p.p.m. for after-harvest sprays, on bearing trees, and for later sprays on non-bearing stock. The one p.p.m. concentration should be sufficient for the early sprays on young trees. As for all eradicants, thorough coverage is essential. **THE END**

The antibiotic, actidione, is manufactured by The Upjohn Company, Kalamazoo, Mich.

AMERICAN FRUIT GROWER

CHERRIES FLOATED TO CANNERY

**Less damage, time, lugging,
and labor favor the water
method of hauling cherries**

BULK handling red tart cherries in tank trucks of cold water may well become the modern way of hauling this fruit from orchard to processing plant.

This method of cushioning the fruit would eliminate almost entirely the use of cherry lugs and at the same time the quality of the fruit delivered to the packing plants would be improved, say research workers H. P. Gaston, Michigan State College horticulturist, and Jordan H. Levin, USDA engineer.

In their experiments last summer, Gaston and Levin found that this water method of transporting cherries cooled the fruit quickly at the receiving point in addition to preventing much bruising of the fruit. Unloading costs also were reduced through the reduction of man hours required to empty the truck upon arrival at the canning plant.

No More Lugs

By hauling cherries in water Gaston estimated the grower needs only one lug on hand for every one in use, as compared with two to two and one-half lugs under the established method of handling cherries. Lugs could be entirely eliminated for some large growers, Gaston believes, by spotting a tank in the orchard and having the cherries emptied directly into the tank from the picking pails. The mortality of lugs, according to Gaston, is around six per cent a year, which represents a big loss to the processor since he furnishes the lugs.

In last summer's experiments the research workers used a galvanized sheet iron tank mounted on a truck chassis. The tank had a capacity of 10 tons of cherries. In use, the tank was nearly filled with cold water and the cherries were dumped into the water. Then the water was circulated through the cherries until all the field heat was removed, after which the truckload of cherries moved on to the processing plant.

THE END

Read the advertisements and remember advertisers will be glad to send you catalogs, specifications, and prices. Be sure to say you saw it in AMERICAN FRUIT GROWER.

MARCH, 1954



COPPER FUNGICIDES

TC copper-based fungicides assure the most effective control of blight and other persistent fungus diseases in your orchards.

As basic producers of copper, the Tennessee Corporation produces copper-based fungicides for virtually every horticultural need. The application of these superior fungicides is simple and safe. Spray your orchards early and late with a TC copper-based fungicide and reap increased yields of better quality fruits.



TC
TENNESSEE CORPORATION
FREE LITERATURE
For free literature
on the above products,
send card or letter to

The soil in your orchard must have the proper mineral balance to produce healthy trees and vitamin-rich fruits. Good health in trees, as in the human body, requires minerals. That's why fruits and vegetables rich in vitamins cannot grow in soil lacking in minerals. Es-Min-El contains Zinc, Copper, Manganese, Boron, Iron and Magnesium—the minerals necessary for healthiest plant growth and vitamin-rich fruits. Mineralize your soil with Es-Min-El, now!

TENNESSEE **TC** CORPORATION

617-29 Grant Building, Atlanta, Georgia

TRI-BASIC

Tri-Basic Copper Sulphate is a chemically stable copper fungicide containing not less than 53% metallic copper. TRI-BASIC Copper Sulphate can be used as a spray or dust on practically all truck crops and citrus crops. Control persistent fungus diseases—correct copper deficiencies from a nutritional standpoint. Use TC TRI-BASIC Copper Sulphate.

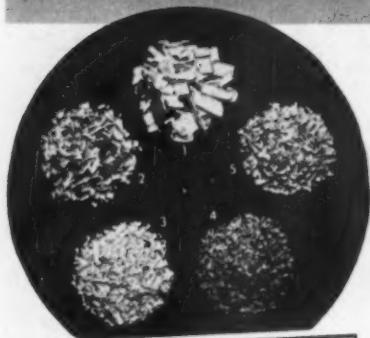
"MICROGEL"

MICROGEL is very effective for the control of melanose and scab on citrus fruits; black rot, mildew and anthracnose on grapes. Microgel contains 50% copper as metallic and is chemically stable. The particle size is very fine, insuring better coverage and adherence. Microgel is also recommended for dormant spraying of peaches.

TENNESSEE "26" Copper Fungicide is a neutral water insoluble copper compound of extremely fine particle and is especially recommended for control of Cherry Leaf Spot on sour cherries. Also very effective for controlling scab, blotch and fruit spot.

31

Types of WOOD CHIPS you can get with a **FITCHBURG CHIPPER**



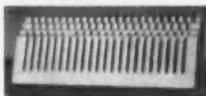
KEY

- 1 Maple Brush, Straight Blades, set 1/8" (Mulch)
- 2 Green and Dry Pine Slabs, Serrated Blades, set 3/32" (Poultry Litter)
- 3 Pine Board Butts, Serrated Blades, set 1/16" (Stable Bedding)
- 4 Dry Oak Pole Wood, Serrated Blades, set 1/16" (Stable Bedding)
- 5 Green Pole Wood, Serrated Blades, set 1/16" (Stable Bedding)

When you own a Fitchburg Chipper, you benefit three ways. First, you can convert woodland thinnings into valuable wood chips for low-cost mulch, poultry litter and stable bedding. Second, at the same time you give new life to young trees—eliminate the fire hazard of dead brush, undergrowth and fallen limbs. Third, manured wood chips provide an excellent soil amendment, and handle well with a spreader.



STRAIGHT BLADES
Excellent for brush.
Make ideal chips
for mulch.



SERRATED BLADES
Produce chips ideal for
poultry litter, stable
bedding.

FREE FOLDER Send for yours today!

Contains money-saving suggestions and details for using wood chips as mulch, poultry litter, stable bedding. Outlines ways to make extra money with a Fitchburg Chipper, gives technical data, diagrams, specifications, etc.



Fitchburg Engineering Corp.

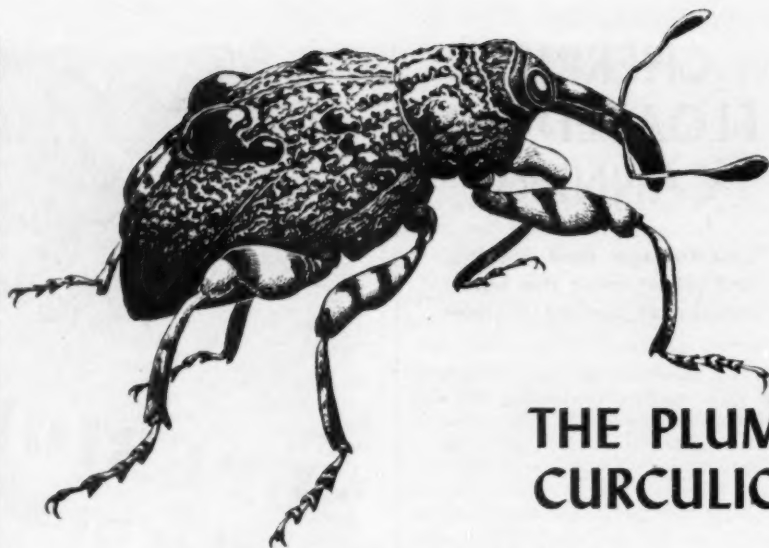
Dept. 7, Fitchburg, Massachusetts
Send me the new Fitchburg Chipper Folder.
I am interested in Wood Chips for:

Please Check ☐ Soil enrichment ☐ Garden or berry mulch
☐ Stable bedding ☐ Farm roads, field lanes
☐ Poultry litter ☐ Fruit tree mulch

Name _____

Address _____

Town _____ State _____



THE PLUM CURCULIO

Major pest of peaches succumbs
to new organic insecticides

By STEWART CHANDLER

FOR many years growers of peaches in Illinois have been striving to learn the best control of the most important pest of peach, the plum curculio. The commercial peach section is in the two-brooded area, and the problem is increased in a large part of the territory by rough terrain making for favorable hibernating quarters in woods and fence rows adjacent to the orchards. Since 1937 harvest surveys have been made in approximately 30 representative orchards to determine infestation of the important insect pests and numbers and kinds of insecticides used. That part of the survey relating to the plum curculio is given in the accompanying table:

in 1952 and 1953, both hot and dry summers unfavorable for plum curculio development. Averages are deceptive, in that every year it requires a large number of orchards with excellent control to offset a few very high percentages, not shown in the table. Stings are an important part of curculio injury, not only because they prevent a peach from being a No. 1 fruit, but also because stung as well as wormy peaches are much more susceptible to brown rot.

In that part of the table which deals with insecticides, we may see, by reading between the lines, much of the history of experimental work for control of the insect. Up to 1937 there was no insecticide used but lead arsenate. Then Cryolite was proposed to alleviate the

Average Per Cent of Peaches Injured at Harvest by Plum Curculio, and Number and Kinds of Insecticides Used for Control.

Year	Per cent of damage				Per cent of total sprays and dusts				
	Wormy	Stung	Lead Arsenate	Cryolite	BHC	Chlor-dane	Para-thion	Dieldrin	Applied as Dsts.
1937	2.0	—	100	0	0	0	0	0	—
1938	4.3	—	92	8	0	0	0	0	55
1939	3.8	—	80	20	0	0	0	0	55
1941	0.7	—	100	0	0	0	0	0	50
1942	7.2	—	100	0	0	0	0	0	77
1943	7.8	—	100	0	0	0	0	0	77
1944	1.7	—	100	0	0	0	0	0	77
1945	3.6	—	100	0	0	0	0	0	80
1946	6.0	—	100	0	0	0	0	0	89
1947	3.4	—	100	0	0	0	0	0	82
1948	4.6	—	68	0	28	4	0	0	82
1949	4.5	9.9	32	0	57	10	1	0	85
1950	1.7	5.8	22	0	45	16	17	0	61
1951	4.8	2.4	11	0	17	15	52	5	60
1952	1.4	2.3	5	0	5	4	71	6	49
1953	1.3	0.7	4	0	2	4	73	16	49

A wide range of infestation is seen in the table. This is due to several causes aside from the insecticides used, such as size of crop, carryover, and weather conditions. Effects of weather may be seen in the very low percentages

arsenical injury which had always been severe. By 1939 it looked as if this was the answer until many growers experienced both poor control and an injury called soft suture, and there has been none used since.

For the next seven years experimental work was done on safeners.

(Continued on page 34)

The author, STEWART CHANDLER, is associate entomologist at the Illinois Natural History Survey and consulting entomologist at Southern Illinois University.

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IF YOU ARE INTERESTED IN . . .

Saving man hours . . . reducing maintenance . . . saving spray materials . . . greater coverage . . . low first cost . . . then, you will want to look at the various models of the Buffalo Turbine.

Owners tell of remarkable results with Buffalo Turbine—such as spraying 50 acres of peaches in 8 to 10 hours, or spraying 90 acres of apples and peaches in two days, which formerly required the

work of four men and two hydraulic sprayers. You, too, can reduce your operating cost and secure a high percentage of perfect fruit with excellent finish which will earn the top dollar on the market.

There is a
Buffalo Turbine
to fit your
needs priced
from \$1,200.00
to \$2,400.00

BUFFALO TURBINE
AGRICULTURAL EQUIPMENT CO.
INC.
GOWANDA, NEW YORK

Gentlemen—Please send me full information on the Buffalo Turbine Sprayer-Duster.

I have approximately _____ acres in fruit consisting mostly of _____

Signed _____

☐ Please arrange a demonstration.



Read What Leading Growers
Say About

KOLODUST 100 KOLO 100 (Spray)

"I have been producing apples for over 40 years and am now harvesting the cleanest crop ever. I am very satisfied with the results from using Kolodust and Kolodust 100. There will be less than one per cent scab on a crop of about 15,000 bushels."

Chas. L. Wright
Middlebury, Vt.

"Again this year we are using your Kolo 100 and Kolodust 100 in our pre-blossom and calyx applications. Our scab control was nearly perfect --- our foliage looked very good all season."

Carl Terison
Terison Bros.
Cumberland Center, Maine

"I do not feel that I could use a better fungicide from any standpoint, either cost or effectiveness, than Kolo 100 Spray. It has performed extraordinarily well in the control of apple scab. There has been no injury from the use of this material or in combination with insecticides such as lead arsenate, DDT, etc."

Daniel P. Higgins
Connecticut Valley Orchard, Inc.
Westminster, Vt.

"I have used Kolo 100 for my preblossom sprays on McIntosh and Delicious for the past two seasons. Scab control has been excellent. I think Kolo 100 is a superior early season fungicide, especially for the grower who doesn't dust."

Marshall C. Pratt
Marlboro, Mass.

"Last spring, during almost constant rains, we kept our 150 acres of apples dusted with Kolodust and Kolodust 100 up through calyx. We didn't use our sprayer until after petal-fall. Our scab control was the best we ever attained. We like the way Kolodust 100 flows through the duster - it seems to go further."

Wm. Hermann
Harvard, Mass.

IMPROVED AND APPROVED FORMULATIONS FOR EFFECTIVE, SAFE SCAB CONTROL

You'll follow the lead of leading growers when you use the Kolo 100 fungicides that really control scab without injury to tender foliage, or fruit. They give you the double hit of fused bentonite sulphur and dichloro naphthaquinone—materials that complement each other to provide scab control of outstanding merit. Just ask the Niagara field man or write us and he will call.

50
YEARS OF SERVICE

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FOOD MACHINERY AND CHEMICAL CORPORATION

Middleport, N.Y., Richmond, Calif., Jacksonville, Fla., Tampa, Fla., Pompano, Fla., Wyoming, W., New Orleans, La., Ayer, Mass., Greenville, Miss., Hattiesburg, Miss., Pecos, Tex., Yakima, Wash. Subsidiary: Pine Bluff Chemical Co., Pine Bluff, Ark. Canadian Associate: NIAGARA BRAND SPRAY CO., LTD., Burlington, Ontario.



Song of an Orchardist

HIBERNATION

By Albert L. Mason

Albion, N. Y.

Tell me, Mister Apple Tree,
Settin' there so cocky,
How you keep your trunk and limbs
Lookin' strong and stocky.

All your buds look big and plump,
Dormant sleeping beauties.
Twigs and spurs are husky too,
Freed of active duties.

You must count your calories;
You're so well proportioned.
Who keeps all your vitamins
Properly apportioned?

Does your wife watch out for you?
Mend your socks when holey?
Keep your sap from runnin' wild?
Make you chew more slowly?

What's your secret of success?
Did you go to college?
Tell me Mister Apple Tree;
You seem full of knowledge.

When I know your formula,
I can soon be wealthy.
Human critters crave to be
Half asleep and healthy.

PLUM CURCULIO

(Continued from page 32)

Basic lead arsenate was tried but found slightly inferior for curculio control and frequently was not much safer. Oil dust came into great prominence, reducing the time of making applications, giving good control if applied frequently enough, and decreasing arsenical injury.

Decline in Use of Lead Arsenate

In 1948 BHC and chlordane came into the picture, and with it began the decline in use of lead arsenate. BHC, though much superior to lead arsenate, had various defects such as the large percentage of stings and an off flavor. Chlordane was found superior to BHC as a spray, but not in dust form. With the advent of parathion in 1949 it looked as if this was the answer and very likely this insecticide will continue to be largely used because of its wide general use for other peach insects besides curculio. However, by 1951 the superiority of dieldrin to any other poison for the plum curculio had been shown and as seen in the table its use greatly increased. Due to the fact that it is approved for use only in the early sprays it may never attain as high ranking as parathion which may be used until late in the season.

In Illinois we recommend for combined control of plum curculio and peach catfacing, an application in early

AMERICAN FRUIT GROWER

bloom of DDT with dieldrin starting in late bloom. Our records over many years show that plum curculios first appear in the bloom with stink bugs appearing soon after. Dieldrin has been found superior to other materials for stink bug control. Following the bloom spray of dieldrin we recommend a spray at shuck crack and one in the first cover. This reduction of early curculios is very important since it is these early individuals which produce most of the second brood.

The same advice applies to the use of dieldrin on apples. Our tests showed only one-fifth as many stung apples where dieldrin sprays were started in the pink as where we waited until petal fall to begin poisoning for curculios.

Following these important early applications of dieldrin, parathion or chlordane may be used as the local situation appears to demand, the need usually being greater on peach than on apple. THE END

STRAWBERRY VIRUS CONFERENCE

AN informal strawberry virus conference of approximately 60 state and federal research, extension, and regulatory workers from 16 eastern states and eastern Canada was recently held in the auditorium at the Plant Industry Station, Beltsville, Md.

Reports on strawberry virus research in Arkansas, Michigan, New York, and the USDA were presented. Considerable interest was shown in heat therapy, virus symptoms, indicator plants, and grafting techniques. An illustrated report on the superior performance of virus-free compared to ordinary commercial stocks of Premier, Sparkle, and Catskill in New York was made.

The production of foundation strawberry stocks by the USDA was reviewed. In the spring of 1954, for the first time, some virus-free plants of 16 varieties will be available to growers. In succeeding years similar plants of other varieties will become available. Experimental data from 1953 indicate that virus-free plants produce many more runner plants than diseased plants. This increased vigor must be considered by growers in setting fewer plants per acre to prevent crowding in the row. These virus-free stocks, propagated from individual mother plants in the greenhouse, were free of leaf-spot, scorch, and leaf-blight when moved to the field, and when grown isolated from other strawberry plantings have remained free of these foliage diseases.

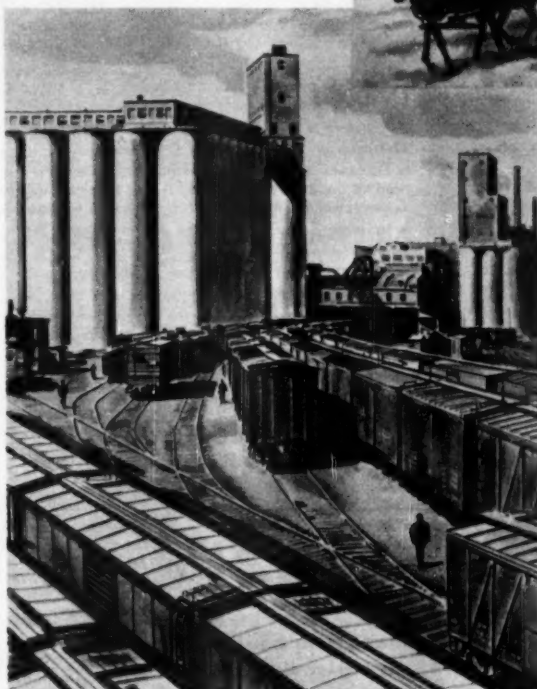
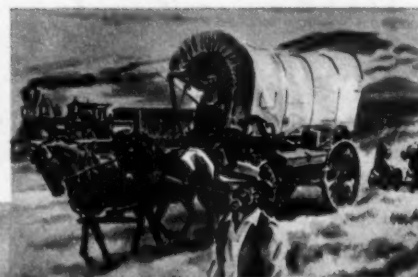
Studies are underway to determine the feasibility of producing strawberry stocks free of nematodes. Considerable time was spent discussing regulatory procedures to insure freedom from virus in commercial strawberry stocks.

— George M. Darrow, USDA.

MARCH, 1954

America and its railroads grew big and strong together

COVERED WAGONS carried the early American settlers in search of new homesteads. Land was cheap, but markets were few and far. The cost of moving a ton of freight averaged about 20¢ a mile.



HARD ON THE HEELS of the covered wagon came the railroads . . . grangers all. They were the touchstone that changed prairie trading posts into thriving market places, and frontier settlements into prosperous agricultural communities. Shipping charges were cut in half, later to be halved again and again. Today the railroads' average revenue per ton-mile is less than 1 1/2¢.

...AND THEY'RE BOTH STILL GROWING!

During the last century America grew fast — and so did its railroads!

Agriculture flourished in vast new territory as railroads provided the means of moving the harvest to distant markets. New sources of raw materials were discovered — it took the railroads to get them where they were needed. New and better ways of making goods were developed — the railroads carried the products of growing industries to the eager consumers.

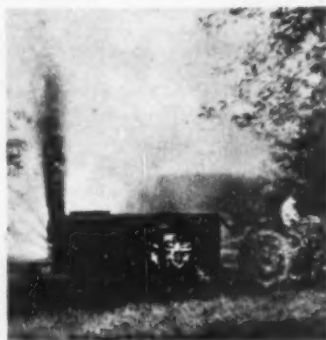
In 1954 America's railroads are still growing in strength — still setting new records of efficiency in their service. Today railroads haul more goods, more miles than all other forms of transportation combined. And their average charge is lower than that of any other form of general transportation. Yes, this railroad record is one big assurance that, in the future, America will be stronger, more productive and more prosperous than ever!

ASSOCIATION OF AMERICAN RAILROADS

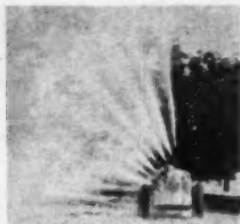
WASHINGTON 6, D. C.

Take the Hard Work Out of Spraying with a HALE Centrifugal ORCHARD SPRAYER

- Cuts Spray Time Over 50%
- Cuts Labor Cost Over 60%



Above—Side view of Hale Sprayer showing both banks of guns in action.



Above—View of Hale Sprayer spraying walnut trees.

- The Hale Centrifugal Orchard Sprayer pictured at left will make you money due to efficient coverage; protects quality of fruit.
- Saves time; provides volume large enough to spray at fast tractor speed. Pumps any desired capacities and pressures up to 100 GPM at 600 lbs.
- Saves money. Cuts labor cost over 60% for applying spray materials, compared to previous methods.
- Requires less effort. One man can easily operate sprayer.
- Flexible . . . will handle dormant spray solutions as well as usual spray chemicals. Large volume pump is ideal, too, for feeding trees by spraying fertilizer.
- Versatile. Hale Sprayers are delivered either skid or wheel-mounted.
- The Centrifugal Pump has fewer moving parts, reducing maintenance to a minimum.
- Results prove value. Owners get real enjoyment out of using a Hale Centrifugal Orchard Sprayer.

Write today for New Bulletin No. 302.
State size of orchard or grove.

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Conshohocken, Pa.

NEW FOR '54!
2½ H.P. MODEL F
lever gear shift,
6 forward speeds
and reverse
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F.O.B. Factory.
Attachments
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For spraying fruit trees, cultivating berry crops, or for handling over thirty common yard, garden and farm jobs with year-round ease and economy, you'll find Simplicity is far and away America's biggest utility tractor value! Ask your dealer to prove Simplicity's dependability and versatility on your own grounds! He's listed in the yellow pages of your telephone book.

MARKETING *Eating-Ripe* PEACHES

Careful packaging plus refrigeration enroute preserves their quality for long-distance shipment

THE subject of peach maturity has suffered through detailed and prolonged discussions for a great many years. With a considerable volume of the crop grown many days distant from the consuming areas, it has been quite natural for growers and handlers to favor a hard, green peach. The consumer insists that peaches, at the retail level, shall be ripe, juicy, full of flavor, and, unfortunately, rather susceptible to bruising and spoilage. From the time the ripe peach is picked from the tree until it is delivered into the hands of the consumer, the ultimate in careful handling is required.

A never-ending search is being conducted for the right type of container which must not only afford complete protection to this fragile fruit but must also be cheap, easy to pack and handle, attractive, and so constructed that the fruit can be properly refrigerated. This latter point is the second important part of the peach handling picture. If the fruit is picked tree-ripe for maximum quality, its temperature must be quickly reduced and this low temperature maintained or else the fruit will quickly soften and spoil.

Carefully Packaged

A group of progressive fruit growers in West Virginia, directed by Bud Sumner of Mt. Fruit Sales at Romney, have given serious thought to this problem and are taking steps toward a practical solution. Last year Tom Machemer of Mountain View Orchards packed an impressive volume of his peach crop in cell-type fiberboard containers. This fruit was allowed to become fully tree-ripe and was carefully handled to reduce bruising to the minimum.

The fiberboard cartons used were of about one-half bushel capacity and were produced in two sizes: one holding 80 peaches ranging from 2½ to 3 inches in diameter and the other, 96 peaches of 2 to 2½ inches in diameter. In most instances, the peaches were placed in the square cells without further protection, but shipments were also made using crinkled cups and shredded paper to prevent movement within the cell.

It was found that these peaches

AMERICAN FRUIT GROWER

could be picked, packed, and moved with the minimum of delay to comparatively nearby markets. They arrived in excellent condition and were very well received. Toward the end of the season the shipper decided to test this package on a more distant market by shipping a car to Miami, Fla.

Since this movement posed some additional problems, R. L. Winklepleck, horticultural agent, B&O RR, and Kail E. Rion, northeastern representative, Freight Loading and Container Bureau, AAR, were asked to assist. A trial loading permit was secured, a special loading method was developed and a modern Preco fan-equipped refrigerator car was ordered for loading.

Low Temperature Maintained

The car was bunker-iced to capacity and the fans operated for about three hours before loading was started. The car started on its journey with fans in operation. Five per cent salt was added at the first two re-icing stations to quickly lower the fruit temperature to the low 40's and hold it there.

The car was shipped from Romney on August 27 and arrived in Miami September 1. Inspection at destination showed that the experimental container had held up very well in shipment and the condition of the peaches was found to be generally good, ripe but



R. L. Winklepleck, horticultural agent, B&O RR (left) and Kail E. Rion, freight loading and container representative, AAR, examine cell-type carton of eating-ripe peaches packaged by Mountain View Orchards of West Virginia.

fairly firm. The receiver was well pleased with the shipment.

While many more cars must be shipped before it is definitely proven that such distant shipments are possible and practical, this single shipment does suggest that there is a solution to one of the most troublesome peach marketing problems. It shows that fully ripe, delicious peaches can be shipped by rail and placed in the hands of the consumer many hundreds of miles distant. It offers the consumer a peach which creates a demand for more peaches and by harvesting ripe fruit increases by 10 or 15 per cent the yield which the grower would normally realize.

THE END

New Improved!

Orchardkraft AIR POWERED PRUNER

Saves Labor—two men can prune faster and easier than 4 or 5 men with hand pruners. Pays for itself in labor savings 1st season. Carefully made of best materials for long, trouble-free service. Look at these features: • Very Fast Action • Requires little air • Improved cutting head • Positive grip handle • Cuts limbs up to 1 1/2" diam. • Cuts easier • Light weight.

Write for circular, advise us nearest dealer's name.

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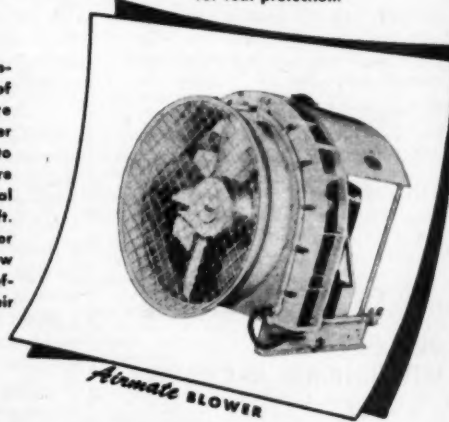
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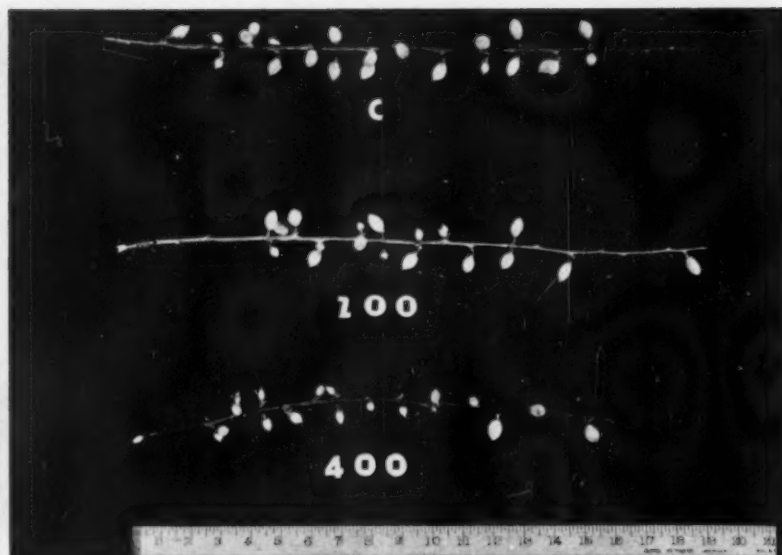
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Peach fruits on Elberta twigs showing differences in amount of thinning. Smallest fruits will fall due to thinning action of 3-chloro-IPC. Spray applied 30 days after full bloom; photo made seven days after spraying. C—Control (no spray); "200"—200 p.p.m. 3-chloro-IPC; "400"—400 p.p.m. 3-chloro-IPC.

SPRAY THINNING PEACHES *with 3-CHLORO-IPC*

Chemical weed killer shows promise as an after-bloom peach thinner

By LEON HAVIS

U. S. Department of Agriculture

RESULTS during the last two years have shown that 3-chloro-isopropyl-N-phenyl carbamate (3-chloro-IPC), or a similar material, may be both effective and economical for use as a spray in thinning peach fruits. This material seems to have many, but not all, of the important characters desired in a chemical peach thinner.

A great many chemical materials have been tested by state and federal research workers as well as by commercial companies during the last several years. Several materials, some applied at full bloom and some afterward, have been more or less effective in thinning peaches. In most cases peach thinning has been most effective when a spray was applied during full bloom. Most, if not all, of the previously used materials, however, have given some foliage injury during certain years when applied at concentrations sure to give the desired amount of thinning.

It is highly desirable that a material used for thinning peaches give not only sufficient thinning of the fruit, but also uniform thinning throughout the tree without foliage damage; also, it should thin the fruit late enough so that there is little danger of further thinning by frost. 3-Chloro-IPC seems to have

these desirable characters. Rather limited tests, however, indicate that this material may lack one important desirable character, that is, dependability in amount of thinning from year to year and in different sections of the country. It may be affected considerably by temperature at the time of application.

In 1952, P. C. Marth and V. E. Prince made limited branch treatments with several chemicals selected by Dr. Marth as promising for this purpose. These limited tests were made on several varieties and thinning with 3-chloro-IPC about a month after full bloom was very encouraging. The peaches were thinned uniformly and no foliage damage was noted even with much higher concentrations than were necessary to give sufficient thinning.

3-Chloro-IPC certainly seemed to have the most important characters desired. The thinning was late enough to avoid almost all danger of frost; the material was inexpensive and readily available; the spray could be easily and quickly applied; in addition, uniform thinning and lack of injury to foliage were evident.

Other studies, however, especially those concerned with the use of this material as a weed killer, have shown that it is very volatile. At relatively high temperatures the material evaporates so readily that it is sometimes

either ineffective or requires higher than usual concentrations for effectiveness.

Because of the encouraging results with 3-chloro-IPC in limited tests during 1952, more extensive tests were made on entire trees in 1953. Dr. Marth and Mr. Prince co-operated with the writer in these orchard tests with the Redhaven and Elberta varieties. A high pressure sprayer was used and 10 uniform trees were selected for each treatment so that the results would be obtained under orchard conditions. 3-chloro-IPC was applied at three different concentrations and at two periods, approximately 30 and 42 days after full bloom. The former was soon after shuck fall.

The results of using 3-chloro-IPC in the thinning tests during 1953 were again very promising. The Redhaven trees were thinned hardly enough at 100 parts per million (p.p.m.) but were slightly overthinned at 200 p.p.m. and there were very few fruits remaining when 400 p.p.m. concentration was applied. The Redhaven trees had a heavy bud set as is characteristic of that variety. Also as is characteristic, there was a very light June drop; thus the number of fruits remaining at harvest might be expected to be greater than on a variety such as Elberta.

The Elberta trees, with the same concentrations and times of applications, also showed variability in amount of thinning at different concentrations but were thinned more than Redhaven at equal concentrations. The Elberta trees had a lighter set of buds and also a heavier June drop than the Redhaven; thus, they had a smaller number of fruits at harvest in all treatments. Even at 100 p.p.m. the Elberta trees were overthinned.

There seemed to be little or no difference in the amount of thinning by applications 30 days and about 42 days after full bloom. When the spray was applied 30 days after full bloom, however, the results were evident one week after application, whereas when it was applied 42 days after bloom the results were not evident until about 10 days after the spraying was completed.

Influence on Fruit Size

In this test there were no evident effects of the thinning treatment with 3-chloro-IPC on the color and time of ripening of the fruits. This too is an encouraging character. One would ordinarily expect considerable improvement in fruit size from thinning treatments. However, in 1953 there was relatively little difference in size of fruits because of the extreme drought during the period when the fruits were growing rapidly. All the fruits, especially those of the Redhaven variety, were small.

(Continued on page 40)

MARCH, 1954

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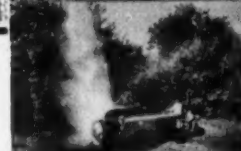
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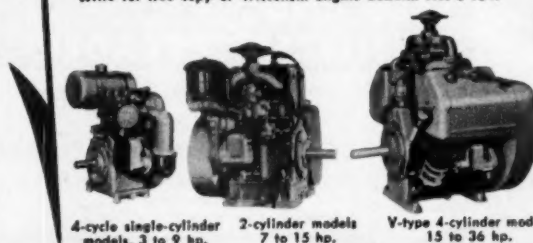
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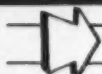
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THINNING PEACHES

(Continued from page 39)

We are especially interested in obtaining further results on the influence of 3-chloro-IPC on fruit size, particularly in comparison with that on trees thinned by hand at the same time the fruit-thinning spray is applied. The two lower concentrations seemed to cause no injury to peach foliage and at even 400 p.p.m. the injury was very slight and seemingly only temporary. Of course, even the last concentration is considerably below that of 3-chloro-IPC used for weed killing.

Further Testing

Limited reports from several tests at other experiment stations in 1953 indicate that the results with 3-chloro-IPC usually were favorable. This material evidently is not always effective, however, probably because of its volatile nature. For fruit thinning a material which has the desirable characteristics of 3-chloro-IPC but lacking this volatile characteristic is needed. Several other similar materials are to be tested for this purpose and we should soon find one which best fills this important need.

We are hesitant to suggest extensive orchard testing of 3-chloro-IPC because of some variable results reported, probably because of the volatile nature of the product. We do not expect to find a material which can be used at equal strengths on all varieties every year. We do expect to find one, however, which will give effective thinning and no foliage injury and can be used late enough to avoid danger of spring frosts.

The most valuable material would be one which would eliminate the major competition between fruits of early varieties at a period during or just after shuck fall so that they would obtain the most desirable size. Hand thinning in most cases would not be completely eliminated but would be reduced considerably, and early ripening varieties would obtain larger size than by the thinning methods that are usually followed.

THE END

TRACTOR ACCIDENTS

AN analysis of 31 fatal tractor-caused accidents to farm youth under 18 years of age indicate that 17 resulted from tipping tractors, five when the tractors turned over backward from heavy pulls or in crossing or working too close to ditches, five when the youthful operators were thrown from or when they fell from tractors, two when they became tangled in the wheels or discs, and two when they were overrun by someone else backing up tractors for hitching them to implements.

This information, says the USDA, was obtained by the National Child Labor Committee from newspaper sources during the spring of 1953.

AMERICAN FRUIT GROWER

PEACH PRUNING

(Continued from page 11)

orous shoots with sparsely spaced fruit buds should be removed entirely.

The degree of cutting is always up to the operator. Each year new growth is forced back towards the center and the placing is determined by the degree of cutting. Naturally, the inner "bowl" of approximately the inside third of the tree is kept clean, but the remainder of the tree produces uniformly. Thinning cuts with both saw and shears are needed the same as with any method and depend on the desire and judgment of the grower.

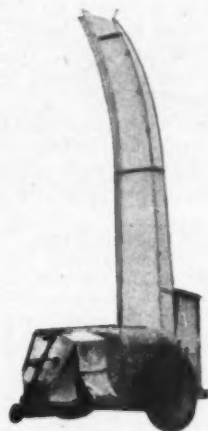
Proper Framework

It is essential that proper framework be maintained in the peach tree the same as in the apple. One does not fight crotches as much, but the main scaffold limbs should be kept at varying lengths

peaches, apples, strawberries, and vegetables of his own raising at the roadside stand of Lookout Farm. The peaches must be large and they must be right, but to date his supply has been short of the demand. Albert Doggart, the orchard foreman, believes that keeping the trees compact with the fruiting wood vigorous and properly placed aids greatly in growing the kind of peaches demanded by the stand. He feels that it pays off in the efficiency of picking, thinning, and spraying operations. With convenient picking careful handling of the peaches is easy to accomplish.

During the past decade, crops of peaches have been more regular than they were in the past. Mild winters have had much to do with this, but management plays its part. Of course, winters can be so severe that production is out and many trees may be killed. During normal winters, however, proper plant food balance, hardening of the trees in the fall, and good thinning and pruning practice have a definite bearing on the ability of the peach buds to come through. Pruning is an important one of these factors to bear in mind. THE END

HANDY ANDY



Kirk Keller and son Jim have used a home idea in spray booms for five years with good success at their orchards in Creve Coeur, Mo. Operating on the air-blast principle, boom is a duct which carries air from the fan to the top of the tree where it is discharged down into the tree. Blower is mounted on extended frame of a Hardie power take-off driven 20 g.p.m. pump, 300 gallon sprayer. Fan is powered by a two cylinder 12 h.p. engine. Air is discharged through 16 openings about six inches square. Each duct opening has a tee jet nozzle in the air stream. Upper five nozzles have larger size holes to give better top coverage.—R. T. Meister

with the main one just a bit longer than any of the remainder.

Lookout Farm of South Natick, operated by Cyrus Jenness, has proved that the foregoing way of pruning will work on peaches in eastern Massachusetts the same as in the large producing areas. Jenness sells a large amount of

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A NEW DEER REPELLENT

Penn State has developed
and recommends the use of
a bone tar oil formulation

By

DAVID G. WHITE and D. E. H. FREAR

IN the past decade the deer population in most areas of the United States has increased tremendously without a corresponding increase in available wild foods. As a result the animals have been forced to eat cultivated crops.

Most of the damage caused by deer is from eating buds, leaves, and fruits but they also ruin many plants by trampling, antler rubbing, and pulling up newly set small plants. In the Grand Traverse fruit region of Michigan they caused an estimated damage of \$46,000 on only 42 farms in one season.

Probably few other wild animals have had so many measures designed to control their behavior. Fences, both elec-



E. P. Haddon, U. S. Fish and Wildlife Service

He doesn't like the smell of bone tar oil . . .

young apple trees were conducted in the orchard of Roy R. Askey near Karthaus, Pa.

Since bone tar oil is not miscible with water a number of solvents and emulsifiers were tried and a formulation containing one part of a commercial emulsifier plus nine parts of bone tar oil was found to be most satisfactory. Different dilutions of this formulation were applied as sprays on eight-year-old apple trees in the Askey orchard during the summer of 1952. Some of the trees were not sprayed and served as checks for comparison.

The sprays were repeated at monthly intervals until December when we concluded that about one gallon of the bone tar oil formulation per 100 gal-

Field trials with bone tar oil formulation as a deer repellent in 1953.

Place of trial	Plants sprayed	Concentration used qts./100 gals.	Number of applications	Approximate interval between applications	Repellency
Indiana Co.	Apples	4	5	1 month	Excellent
	Prunes	4	5	1 month	Excellent
Huntington Co.	Apples	4	2	1 month	Excellent
Clearfield Co.	Apples	4	3	1 month	Excellent
Snyder Co.	Apples	3	4	3 weeks	Excellent
	Peaches	3	4	and	Excellent
	Cherries	3	4	2 weeks	Excellent
Centre Co.	Alfalfa	4	1	Excellent

tric and eight-foot woven types, often have proven to be satisfactory physical barriers but they are costly to erect and to maintain. Most proprietary chemical repellents act as taste repellents and the plants must be sprayed repeatedly during the growing season for them to be effective. For this reason we decided early in our trials that an odor repellent would be more likely to succeed on growing crops than a taste repellent.

Of over 50 different mixtures of chemicals prepared to emit odors which might repel deer we found that bone tar oil seemed to have the best qualifications. To humans it does not smell any worse than lime sulfur but apparently it is quite offensive to deer.

Our early screening tests with the different chemical mixtures were performed at the Cohick Deer Farm near Salladasburg, Pa. Subsequent tests on

lons of water usually repelled the deer for a period of a month or more. The deer prevented the development of any new growth on the check trees while those which had been sprayed averaged 275 inches of linear growth per tree during the season.

Beginning in May, 1953, the same trees were again sprayed at monthly intervals but at a concentration of only two quarts per 100 gallons because we had higher concentrations under test elsewhere. Occasionally a few terminal buds were nipped during the 1953 season, suggesting as in 1952 that a concentration higher than two quarts per 100 gallons would be a more effective dosage. Some growth was made by the check trees because they were not browsed as severely as in previous years. By October, 1953, the check trees averaged 79 inches and the

AMERICAN FRUIT GROWER

sprayed trees 365 inches of linear growth per tree during the season.

The bone tar oil formulation was tried by fruit growers in about two dozen locations in Pennsylvania. Many of these orchards were not invaded by deer in 1953 but in a few areas deer activity was sufficient to measure the effectiveness of the spray as a repellent. These field trials are summarized in the accompanying chart.

How to Use Formulation

We have applied sprays of bone tar oil formulation on fruit trees during the months of March through December when temperatures ranged from nearly freezing to over 80°F. and no injuries have been apparent. Our suggestion would be to try the formulation as follows:

- 1) Apply one gallon of the bone tar oil formulation per 100 gallons of water.
- 2) Spray when temperatures are above freezing and the atmosphere is dry.
- 3) Make the first application prior to the time deer ordinarily begin to feed on the plants. There is a suggestion that once the deer have started to browse on cultivated plants they are more difficult to repel.
- 4) Be prepared to repeat the applications at three- or four-week intervals if deer continue to invade the planting.
- 5) Cover the plants thoroughly using a hand sprayer or a high pressure machine.
- 6) Applications apparently can be made with the regular pesticide sprays since our tests indicated that the bone tar oil formulation is compatible with lead arsenate, liquid lime sulfur, DDT, ferbam, and Bordeaux mixture.

It is probable that the bone tar oil formulation will be available commercially to fruit growers at a relatively low cost in the near future. Additional studies on the repellent action of this material with other animal species is in progress.

THE END



E. A. Goldman, U. S. Fish and Wildlife Service

... but he likes the taste of apple leaves.

MARCH, 1954

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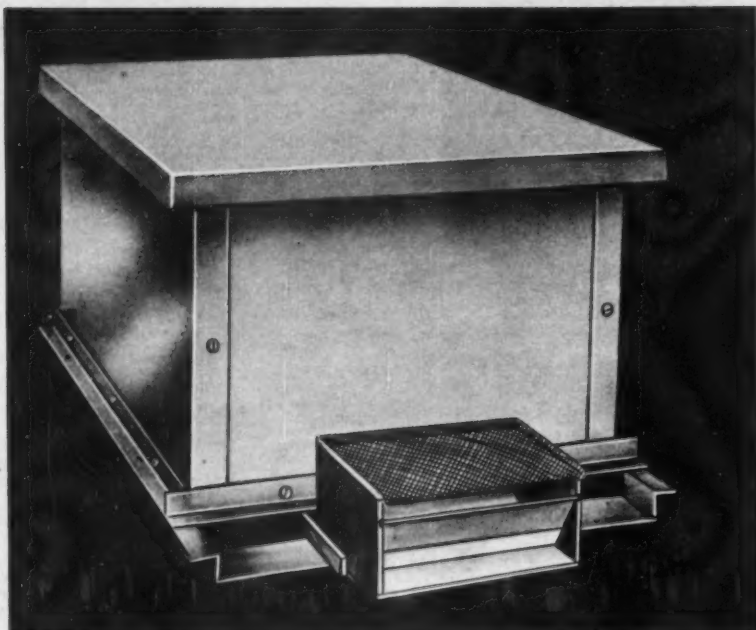
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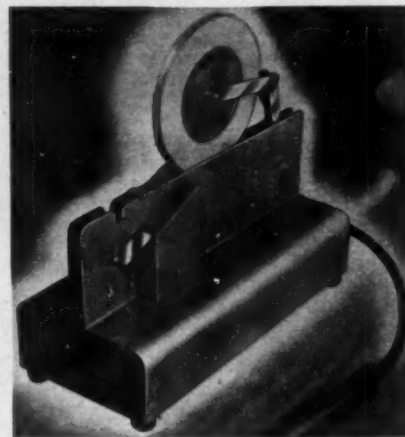
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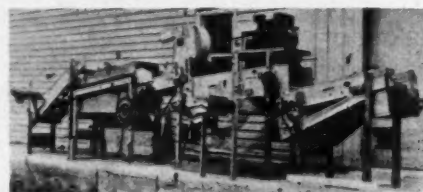
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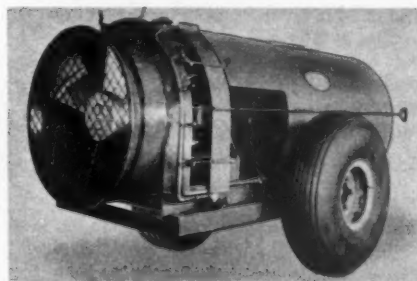
and carries them up the steepest elevation. Another unique feature is that a method of attaching undercarriages to the body of the conveyor has been perfected so that the conveyor can be placed in any position easily and quickly. Why not write Parke Burrows, Burrows Equipment Company, 1316 Sherman Ave., Evanston, Ill., and ask him to send you their interesting booklet?

Big Help



There are many new laborsaving attachments in the 1954 Bolens tractor line. A major improvement in the tractor itself is the Versa-Matic single lever control which gives the grower instant changes of forward speeds under full power, under loads, and without shifting belts or clutching. You should look at Bolens' facts on the 1954 Power-Ho tractor. Write Earl Holsen, Bolens Products Div., Food Machinery and Chemical Corp., 316-2 S. Park St., Port Washington, Wis.

Friend News



Friend Manufacturing Co. has just announced another new addition to their sprayer line called the Airmate. The pump delivers 25 g.p.m. at 700 pounds pressure. Airmate operates from a tractor take-off and can be used for concentrate or dilute spraying. It is equipped with a 300-gallon steel tank. You will want to get the latest information from Fred Ganshaw, Friend Manufacturing Co., 2 East Ave., Gasport, N. Y.

MARCH, 1954

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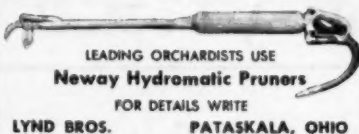


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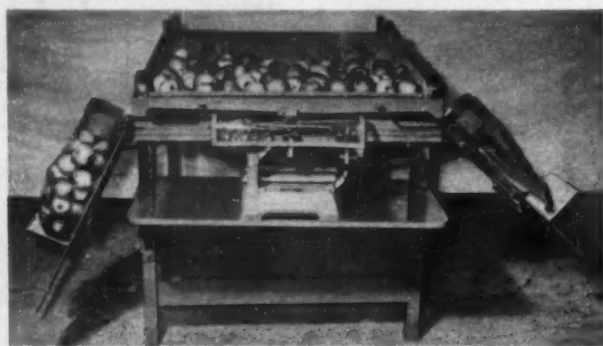
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From where I sit ... *by* Joe Marsh

You Might Call it a "Gravy Train"

Was reading the other day about a Maharaja in India who has a miniature electric train all made of silver. Now, maybe that's not unusual for a prince, but this fellow had it running around to each place on an enormous dining table in the royal palace.

The twelve cars on the train are loaded with different kinds of fruits, nuts, and beverages. And the train pulls to a stop automatically in front of each plate so the person sitting there can choose what he wants.

From where I sit, the Maharaja

is really going to a lot of trouble to impress his guests. Around this part of the world, hospitality certainly doesn't need all those fancy trimmings.

You don't have to spend a lot of money or go to a lot of work when your neighbors drop in. Just offer them what you have—coffee, tea, a temperate glass of beer—and let them make their own choice. They'll feel they're really getting a royal welcome.

Joe Marsh

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CHEMOTHERAPY

(Continued from page 14)

would pull through if Nabam was applied only into the soil, he knew that these plants would die if nothing was done.

So Stoddard used an injection gun which could be attached to a regular orchard sprayer but which would introduce the chemical solution below the soil line and he injected Nabam into the soil in a ring around the area of infected plants. Then he worked back into and through the infected area itself, leaving a number of plants untreated as a check. The spread of disease stopped at once and a number of infected plants recovered.

In studying why this method worked Stoddard found that if he saturated soil carrying the fungus with Nabam and then planted a healthy plant in it, the plant became diseased. But if he treated the soil in which a healthy plant grew so that the plant absorbed some Nabam and then transferred the plant to soil carrying the disease, the plant remained healthy. Clearly the compound had to be in the plant to do the job and this was chemotherapy. Since then many Connecticut growers have used the method successfully when red stele threatened them.

Results May Vary Elsewhere

There have been some unfortunate experiences with plant chemotherapy. Workers in other parts of the country, using chemicals found effective in Connecticut, have found these compounds to be either injurious or ineffective under their conditions. This is to be expected. Some chemicals are injurious only at high temperatures, as, for example, sulfur sprays on apples; others are injurious at low temperatures but not at high, as for example copper sprays on apples. Compounds applied to the soil may be inactive in one soil and not in another. These results must be expected and studied in order to put plant chemotherapy to work for the grower as soon as possible.

Today plant chemotherapy is on the move. Progress will be made slowly but it will come. Workers all over the United States are seriously working in this field, both with antibiotics and with synthetic chemicals. Progress has been reported from Missouri in spraying antibiotics on apples to control fire blight, from Nebraska in spraying calcium sulfamate on wheat from airplanes for control of wheat rust, from the USDA in spraying bean plants with streptomycin for control of bacterial (halo) blight of beans. There are many who believe that plant chemotherapy will be the next big development in plant disease control. THE END

AMERICAN FRUIT GROWER

HISTORY OF HORTICULTURE

The Versailles School of Horticulture

By STANLEY JOHNSTON

THE writer had the privilege of visiting the Versailles School of Horticulture near Paris in the fall of 1950 under the guidance of Philippe Le-maistre, a graduate of the school who had spent the previous year in fruit growing regions of the United States and Canada. Part of that time was spent at the South Haven (Mich.) Experiment Station.

We first visited the famous Palace of Versailles which was founded by King Louis XIV and has been the site of many great historical happenings, including the signing of the treaty which gave France her independence. The palace grounds are justly famous for their great beauty.

The School of Horticulture is located adjacent to the palace grounds and the walled area of about 20 acres was formerly used as the palace fruit and vegetable gardens.

We learned that the School of Horticulture was founded after France became a Republic. The course in horticulture is a combination of practice and theory. About 250 students are enrolled and, in addition to attending lectures and laboratory sessions, they do practically all of the work of cultivating the gardens and harvesting the crops.

Pear Plantings Predominate

More pears are grown in the gardens than other fruits although some of all other kinds that will succeed in the climate are included in the plantings. The summers are too cool for successful commercial peach growing and only a few trees are grown against walls exposed to the sun and where protection is provided against cold winds. Large vegetable and flower gardens are maintained to provide material for student instruction.

All of the pears and apples are grown on dwarf stocks. Trees only three and four feet high carry full loads of fruit. Most pear trees, however, are grown on wire trellises about six feet high which are similar in appearance to grape trellises in this country.

The author, STANLEY JOHNSTON, is research professor of horticulture at the South Haven Experiment Station of Michigan State College and a member of the executive board of the American Pomological Society.



Part of the gardens at the Versailles School of Horticulture. Pears on extremely dwarfed trees in foreground are protected with paper sacks. Pears at left are growing against a wall; at right, on six-foot-high trellises. Classrooms and dormitories are in background.

lises in this country. Each pear is covered with a paper sack to keep the fruits freer from insects and diseases, and the skin of the fruit thinner and more tender.

Labor rates are low, compared to ours, and prices received for first-grade pears are sufficiently high to permit sacking. Pear yields obtained are considerably better than average in this country and will compare favorably with high yielding orchards on the Pacific Coast. Fortunately, pear blight is not a problem in Europe.

English and European horticulturists have long been interested in dwarf fruit trees and in growing trees against walls, partly for greater protection to the trees and partly to utilize every bit of available land. It is difficult for us in this country to realize how highly prized usable land is in the heavily populated countries.

Many fruit growers from America are now visiting Europe and most of them visit Paris and Versailles. An interesting glimpse of certain phases of French horticulture can be obtained by including a brief visit to the Versailles School of Horticulture which is rendering valuable aid to the French fruit and vegetable industries.

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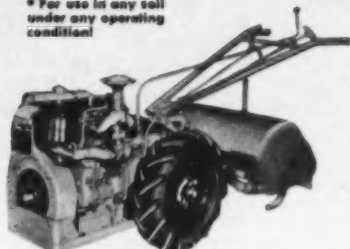
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STATE NEWS

(Continued from Page 15)

to incorporate into new agricultural legislation authority for the USDA to relieve the near-panic situations which sometimes result at harvest time with apples for processors. It was recommended that when the farm price of a tree fruit for processing falls below 60 per cent of parity the Secretary of Agriculture may immediately promulgate a program designed to raise the price to at least 75 per cent of parity and to bring supplies of the processed product into line with prospective market demands.

To accomplish this the grower may enter into agreements with processors to purchase up to 50 per cent of their individual current packs at the end of the marketing season if they have not been able to sell them all in the markets. Such agreements will require that processors shall pay growers a minimum of 75 per cent of parity for the raw product going into their pack and that the processors shall limit current packs to whatever percentage of previous packs appears to be necessary to bring supplies into line, as determined by the secretary.

An important resolution passed asked that information be corrected annually on commercial plantings and removals of tree fruits.

INDIANA—The Indiana Horticultural Society served as host to the American Pomological Society and the Indiana section of the Northern Nut Growers' Association on January 13-15, at Indianapolis. This joint meeting was the 93rd session of the Indiana society, the 68th session of the APS, and the first meeting of the nut growers' association.

Of special interest to the joint group was the panel discussion of new varieties of nuts and fruits, some of which are worthy of trial plantings in the Midwest and elsewhere. Many of these varieties were described in the January issue of *AMERICAN FRUIT GROWER*.

An outstanding feature in the discussions of pruning practices was the illustrated talk by Alex Gale, fruit grower of Sodus, Mich. The object of his pruning program is to keep trees small so orchard operations can be performed more easily. By heavy pruning he also keeps his trees young and vigorous which helps to induce larger fruit and higher yields of No. 1 apples.

Growers on a panel discussing apple packaging included Phil Johnson, Mooresville; Mark Byers, Vincennes; Max Kercher, Goshen; John Bigley, Culver; Leon May, Terre Haute; and Nevil Colglazier, Salem, all of Indiana. The dominant item in bagging apples, these growers concluded, is the additional cost of

WILDER MEDAL AWARDS

THE American Pomological Society during its recent annual meeting in Lafayette, Ind., awarded three Wilder Medals as follows:

To the California Agricultural Experiment Station, for the origination of meritorious varieties of strawberries.

To Paul H. Shepard, director, Missouri State Fruit Experiment Station, Mountain Grove, for fruit breeding and varietal studies in the Ozark region.

To Richard Wellington, professor of pomology, emeritus, New York Agricultural Experiment Station, Geneva, for the improvement of fruits through breeding.

Presentation of these distinguished honors in the field of pomology was made by Dr. H. B. Tukey, past president of the American Pomological Society.

the operation. Their question is, "Will the consumer continue to pay the additional costs now necessary to cover the bagging operation?"

Interest in planting semi-dwarf apple trees seemed to rate high among this group of growers. A few have already made trial plantings and more are planning to do so. Prof. H. L. Lantz of Iowa State College discussed the performance of the Clark dwarf with reference to the production and performance of various varieties grafted on it.

The highlights of the evening dinner were the presentation of the Wilder Medal Awards of APS for 1953 and an illustrated European talk by Dr. H. B. Tukey, head, department of horticulture, Michigan State College, and associate editor, *AMERICAN FRUIT GROWER*.

Dr. Don Hamilton, entomologist at the Vincennes, Ind., USDA station, reported codling moth under good control in the state and area where DDT has been used according to schedule.

Dr. A. S. Colby, Urbana, Ill., continues as president of the APS to complete the second year of his two-year term. Dr. R. B. Tukey of Lafayette, Ind., was elected to the office of secretary-treasurer, replacing W. D. Armstrong of Princeton, Ky. A new member elected to the executive board is Curt Eckert of Belleville, Ill. He will serve for a three-year period, replacing Mark Byers of Vincennes, Ind., whose term expired this year.

Other members remaining on the executive board include Dr. H. B. Tukey, Michigan State College, East Lansing; W. A. Luce, Yakima, Wash.; and E. F. Savage, Experiment, Ga. First and second vice-presidents are W. P. Judkins, Blacksburg, Va., and A. Grant Fox, Simcoe, Ontario, Canada. G. M. Kessler, East Lansing, Mich., was elected to



These aggressive-looking men are Kansas State Horticultural Society's officers for 1954. Left to right: Earl Stoughton, Hutchinson, president; Norris Rees, Topeka, vice-president; W. G. Amstein, Manhattan, secretary; and Frank Clark, Coffeyville, treasurer.

AMERICAN FRUIT GROWER

continue as editor of *Fruit Varieties and Horticultural Digest*.

Robert Byers, Vincennes, was elected to the presidency of the Indiana Horticultural Society while Max Kercher, Goshen, was chosen vice-president. R. L. Klackle, West Lafayette, was re-elected secretary-treasurer.

Officers of the Indiana Nut Growers Association are John E. Talbott, Linton, president; Howard Woodward, Syracuse, vice-president; Mrs. Franklin M. Harrell, Griffith, secretary-treasurer.—*Eldon S. Banta*.

NEW JERSEY—Fruit prospects for 1954 look good (Feb. 8). There appears to be a good set of apple buds. Peach buds set lighter than normal with some winterkilling evident. Blueberry bud set is lighter than normal as a result of dry summer but a good crop is in prospect. Cranberry crop will probably be lighter than 1953. Strawberry fields show injury from dry weather.

Charles H. Brewer, who developed the Brewer blackberry, recently received a citation for distinguished service to New Jersey agriculture from the State Board of Agriculture.—*Ernest G. Christ, Sec'y, New Brunswick*.

The fruit and vegetable department of the American Farm Bureau Federation, Chicago, is now under the direction of John C. Datt, who joined the AFBF staff in October, 1950, as assistant director of the department. Datt is a native of Gibsonia, Pa., and was raised on a dairy and vegetable truck farm. He has a Master of Science degree from Pennsylvania State College, where he specialized in the marketing of fruits and vegetables.

FLORIDA—"Pin-point" buds were much in evidence in citrus groves before mid-February, and the bloom came with a rush before the last week in the month. Bloom has been "unseasonably early" but it has been just as early at times in past years. Generally, groves are in good condition. Scale numbers have been at moderately low levels during the past few months, and there was not nearly as much winter defoliation from mite (purple and rust) injury as there has been in the past.

Citriculturist Fred P. Lawrence of the agricultural extension service is advising growers whose trees were subjected to standing water in late summer and early fall of 1953 to be ready to irrigate as soon as the top six inches or so of soil become dry. In some lowland groves numerous trees stood in water for a week or more during the heavy rains in 1953 and the deep roots of such trees were killed off or badly damaged, leaving only the shallow roots which are in the top six inches of soil.—*Clyde Beale, Gainesville*.

UTAH—Howard Ferguson, Orem, has been elected president of the Utah State Horticultural Society for 1954 and Zeno Thinner, Pleasant View, vice-president.

Dr. Frank B. Wann, head of the botany department at Utah State Agricultural College, died recently at his home in Logan. Dr. Wann had been pathologist at the college for 27½ years and was well acquainted with fruit growers throughout the state. He worked in many of the orchards, particularly those having chlorosis problems. Growers will certainly miss him.—*Gene H. Oberly, Sec'y, West Logan*.

MICHIGAN—What could be more delectable than 5,500 cherry pies? At any rate, that's the number of cherry pies baked by high school girls competing in the annual Michigan Cherry Pie Baking Contest. Final state contest was

(Continued on Page 50)

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Mmmmmmm! Cherry pie! And the young lady is none other than Evadele Schaefer, top winner in Michigan's cherry pie baking contest.

STATE NEWS

(Continued from page 49)

held in the Civic Auditorium in Grand Rapids February 11-12 and 16-year-old Marquette High School Sophomore Evadele Schaefer, daughter of Dr. and Mrs. Walter H. Schaefer of Marquette, won top honors.

The contestants who took part in the state contest were the winners from 62 county cherry pie-baking contests in which more than 5,500 high school girls participated.

Miss Schaefer represented Michigan in the National Cherry Pie Baking Contest held in Chicago on Washington's birthday.

Mark this date on your calendar: MARCH 28. The Michigan Apple Storage Association has planned a five-day tour in New York state, starting on that date, to observe modified atmosphere storages in the Hudson Valley. The first stop will be at Cornell University where Dr. R. M. Smock will acquaint the group with experimental work underway on this method of fruit storage. Modified atmosphere storages are particularly favorable for the McIntosh variety which is second only to Jonathan in importance in the state. Mr. Patterson, executive secretary of the Michigan Apple Storage Association, invites any interested Michigan fruit grower to join the group.—A. E. Mitchell, East Lansing.

CONNECTICUT—Arthur C. Bobb's five-day short course for young fruit growers proved so successful last year that the young orchardists wanted another this year. And their request is being fulfilled. About a dozen youthful growers comprise the group. Bobb is extension pomologist at the University of Connecticut.

Life is going to be somewhat easier now for grower Joseph G. Pero of Manchester. Pero has a roadside stand which with his fruit growing activities has kept him and Mrs. Pero pretty busy. Now he has rented the stand and will devote his entire time to growing fruit. Pero was president of the pomological society in 1950.

Having completed the selling of his crops of apples, peaches, pears, and plums, S. Leonard Root of Farmington is also going to enjoy life to greater extent during the next six months when he and Mrs. Root will drive to California for a visit. Mr. Root was president of the society in 1939.

Latest information on sprays was furnished growers on February 17 when they met in New Haven for the joint meeting of the Connecticut Experiment Station, New Haven County Farm Bureau, and the Connecticut Pomological Society. Out-of-state speaker was R. Samuel Dillon, Jr., Hancock, Md. Each orchard owner was presented a copy of AMERICAN FRUIT GROWER'S Spray Compatibility Chart with the compliments of the pomological society.—S. P. Hollister, Sec'y, Storrs.

AMERICAN FRUIT GROWER

CALENDAR OF COMING MEETINGS AND EXHIBITS

Mar. 16—Michigan State Horticultural Society spring meeting, High School Auditorium, Traverse City.—H. D. Hootman, Sec'y, East Lansing.

Mar. 19—Annual Peach Pruning Field Day, Kentucky Cardinal Orchards, Henderson, Ky.—W. W. Magill, Sec'y, Ky. Soc., Lexington.

March 22-26—New York Farm and Home Show, Cornell University, Ithaca.

Mar. 25-26—University of Minnesota annual Horticulture Short Course, University Farm, St. Paul.—J. D. Winter, Sec'y, Hort. Soc., Mound.

Mar. 25-Apr. 4—National Orange Show, San Bernardino, Calif. Citrus Institute Day, held in conjunction with show, Apr. 1.

Mar. 28—Michigan Apple Storage Association five-day tour of Hudson Valley modified atmosphere apple storages.—A. E. Patterson, Exe. Sec'y, Mich. Apple Storage Assn., Lansing.

Apr. 29-30—Annual Shenandoah Apple Blossom Festival, Winchester, Va.—Festival headquarters, 109 E. Piccadilly St., Winchester.

June 6-10—South Dakota State Horticultural Society annual meeting in joint convention with affiliated State Federation of Garden Clubs, Dell Rapids.—W. A. Simmons, Sec'y, Sioux Falls.

June 17-19—National Apple Institute annual meeting, Niagara Falls, N. Y.—Truman Nold, Sec'y, 726 Jackson Place, Washington 6, D. C.

June 18—Small Fruits Day, Ohio Agricultural Experiment Station, Wooster.—C. W. Ellenwood, Dept. of Hort., Wooster.

APPLE BITTER ROT

(Continued from page 15)

sionally the infections are so numerous that the individual spots remain small, giving the apple a peppered appearance.

When the spots are about one-half inch in diameter, the underlying rotted tissues collapse and the center of the spot becomes sunken. Concentric rings of pink spore masses are formed in the sunken area. These spore masses may eventually become dark-brown or black. An enormous number of spores is produced on each spot, and since the spores can be washed by rain or carried by insects to adjacent healthy fruit, even one infected apple may serve as the source of a serious outbreak of the disease.

Apples that are completely invaded by the fungus shrivel and form a mummy-like structure. If these diseased apples are left in the tree, they can start new infections the following season.

Although the bitter rot fungus is a true parasite and can invade uninjured fruit tissue, it rarely produces cankers on living apple twigs and usually invades tissues killed by other agencies, particularly the apple black rot fungus. The bitter rot fungus overwinters in dead or dying tissues and the following spring produces masses of spores that are washed by the rain to the fruit below. Early in the season it is frequently possible to find groups of infected apples below a dead twig oozing bitter rot spores.

Control. The control of bitter rot is largely through the use of sprays, but removal and destruction of mummied apples of the previous year and elimination of dead twigs that might serve as centers of overwintered infections are valuable auxiliary control measures. Formerly Bordeaux was the only material available but investigations since 1944 have shown that ferbam (two pounds to 100 gallons of water) and Phygon (two pounds to 100 gallons of water) are likewise very effective materials. Either of these organic fungicides is preferable to Bordeaux mixture since their use avoids the danger of copper injury.

Four spray applications for the control of the bitter rot fungus should be made: Between June 10 and 15, about July 1, between July 15 and 20, and during the first week in August. In cool, dry seasons the interval between sprays can be increased one week and only three sprays applied. On summer apples no spray should be applied during the last month before the fruit is harvested unless facilities are available to remove the spray residues by washing the fruit.—John C. Dunegan, USDA.

MARCH, 1954



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An Advertisement of B. F. Goodrich—First in Rubber

The Orchard Home

BREADS, coffee cake, and muffins, are featured this month. Spread a little cream cheese on the orange bread for sandwiches. Hot rolls with a salad make a wonderful snack for Sunday evening. So below is a large choice from which to choose—in fact, you'll probably want to try them all!

APPLE-CHEESE BREAD

1½ cup shortening
¾ cup sugar
2 eggs
1 cup ground apple (including peeling)
2 cups sifted flour
1 teaspoon baking powder
1 teaspoon soda
½ teaspoon salt
½ cup grated cheese
¼ cup chopped walnuts

Cream shortening and sugar. Add well beaten eggs, apple and juice. Sift together flour, baking powder, soda, and salt. Sift one-fourth at a time into first mixture, blending well. Add cheese and nuts. Bake in a lined, greased loaf pan at 350°F., 1 hour 15 minutes.

APPLE-BANANA BREAD

1½ cup shortening
¾ cup sugar
2 well beaten eggs
3 tablespoons buttermilk or sour milk
1 small or medium mashed banana, plus sufficient applesauce to make 1 cup
2 cups all-purpose enriched flour
1 teaspoon soda
1 teaspoon salt

Cream together shortening and sugar; add eggs, buttermilk, and banana-applesauce mixture. Sift together flour, soda, and salt, and add to mixture. Mix all ingredients well and pour into an oiled and lined loaf pan. Bake 45 minutes at 350°F.

CRANBERRY NUT BREAD

1 cup cranberries
½ cup sugar
3 cups flour
4 teaspoons baking powder
1 teaspoon salt
½ cup chopped walnuts
Grated rind 1 orange
1 egg, beaten
1 cup milk
2 tablespoons melted butter

Put cranberries through food chopper; mix with half the sugar. Sift remaining sugar with dry ingredients; add nuts and orange rind. Combine beaten egg, milk, and melted butter and add to flour mixture. Fold in sweetened cranberries. Bake in buttered bread pan in moderate oven, 350°F., about 1 hour. This bread slices best when one day old.

PRUNE FILBERT BREAD

1½ cups chopped dried prunes
1½ cups water
¼ cup shortening
1 egg
½ cup honey or ½ cup sugar
2 cups enriched flour
1 teaspoon salt
1 teaspoon soda
1 cup chopped filberts

Sift flour. Measure and resift with salt and soda. Bring prunes and water to a boil and boil gently for 10 minutes. Measure 1½ cups prunes and liquid, if necessary adding water to make required amount. Add shortening and stir until melted. Cool to lukewarm. Add egg and beat. Add honey or sugar and mix. Add

dry ingredients and sprinkle filberts over top of flour before stirring in. Bake in greased loaf pan in a 350°F. oven for 40 or 45 minutes.

ORANGE BREAD

1 medium-size orange
¾ cup dates, pitted
½ cup walnut meats
2 tablespoons butter
½ cup hot water
1 egg, beaten
2 cups flour
¼ teaspoon salt
½ teaspoon soda
¾ cup sugar

Cut whole orange, peel and pulp, into 6 to 8 sections. Put orange sections, dates, and nuts through food chopper. Add to hot water and butter. Pour in well beaten egg. Sift flour, salt, baking powder, soda, and sugar; add to fruit mixture. Bake in greased loaf pan in moderate oven, 350°F., 1¼ hours. Cool thoroughly before slicing.

QUICK APPLE COFFEE CAKE

Sift together 2 cups flour, ½ teaspoon salt, 2 tablespoons sugar, and 4 teaspoons baking powder. Stir in 1 well-beaten egg, and 1 cup milk. Add 4 tablespoons melted shortening. Spread batter in a greased 8-inch square pan. Press apple slices, ¼-inch thick, into top in rows. Sprinkle with sugar and cinnamon mixture of ½ cup sugar, 2 tablespoons cinnamon. Bake about 30 minutes in a moderate oven, 375°F.—Mrs. Fay Wakeen, La Crosse, Wis.

Now here is the Apple Pan Dowdy recipe for which we have received many requests:

APPLE PAN DOWDY

1 quart pared and sliced apples
1 cup brown sugar
¼ cup flour
¼ teaspoon salt
½ tablespoon vinegar
1 cup water
1 teaspoon vanilla
1 tablespoon butter or margarine

Place apple slices in a well-greased, heat-resisting glass dish. Mix sugar, flour, and salt in a one-quart saucepan. Add vinegar and water, stir well. Cook over low direct heat until thick, stirring constantly. Remove from heat; cool. Add flavoring and butter. Pour this sirup over apple slices.

TOPPING

1 cup flour
½ teaspoon salt
2 teaspoons baking powder
2½ tablespoons shortening
¾ cup milk

Sift flour, salt, and baking powder together twice. With a pastry blender or two knives cut in the shortening until lumps are the size of peas. Add milk and stir until mixture is wet. Drop by spoonfuls or pour on apple mixture. Bake in a 400° oven about 40 minutes. Serve plain or with top milk or cream.

It is best to use unsweetened apples if they are canned.

Books for Your Orchard Library

FRUIT SCIENCE by Norman F. Childers. A fruit grower's bible by a leader in the industry. Fruit growing from A to Z.....\$6.00

DESTRUCTIVE AND USEFUL INSECTS by Metcalf, Flint and Metcalf. A completely revised and up-to-date edition of this famous book. Valuable descriptions and photographs of all fruit insects.....\$10.00

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PLANT DISEASES in Orchard, Nursery and Garden Crops by Ernst Gram and Anna Weber. Translated from the Danish. A classic authoritative reference work. The first section of the book is devoted to general principles of disease control; the next three sections to an account of the diseases of individual crops, arranged alphabetically in three groups: tree and bush fruit, herbaceous fruit and vegetables, and ornamental plants and trees. A special feature is the key for diagnosis of diseases by their symptoms. The many illustrations—350 black and white and 10 full page color plates—have been chosen to facilitate recognition of the diseases. 618 pages, size 8" wide x 11½" deep \$18.50

Books sent postpaid on receipt of check or money order.

AMERICAN FRUIT GROWER
Reader Service Department
Willoughby, Ohio

National Co-operation in Fruit

A QUICK trip from East to West serves to emphasize the fact that many of the marketing problems of the eastern fruit industry and of the western fruit industry are identical. And the sooner each realizes this fact and keeps everlastingly at exchanging information, pooling resources, and working together, the better for all.

Happily there already are instances where group relations are good and where they are ripe for further processing. The National Peach Council is a good example. Each year peach growers get together in some part of the country to discuss varieties, grades, crop prospects, promotion, and general cultural problems. The National Apple Institute attempts the same thing, devoted largely to crop estimates, marketing, and promotion.

But most of what has been done is only suggestive. There is not enough concerted effort to really try to learn from each other. There is too much talk of competition between sections. Yet each region has some information already available and some experiences already at hand which would benefit others. Certainly the orderly movement of citrus to market as controlled by the citrus growers of California is a wonderful example of what pro-rates and central control can do to prevent disorder and disaster in marketing. The East knows too little about these operations.

On the other hand there are some places where various groups work against each other to mutual disadvantage. For example, it is more and more apparent that low quality fruit—no matter whence the source and where the market—hurts everybody. Sooner or later all parts of the country must get together and iron out some of these problems.

Already local growers in both eastern and western regions have formed co-operatives which give the individual great advantage. In some areas the local co-operatives, as in Sunkist Growers and the California Fruit Exchange, have marched another step forward and have joined into larger units. Here, too, the East can take notice. Many local co-operatives are working successfully. Why not join them together for at least some phases of operation if not completely?

And then should come the next step, namely, joining the co-operatives nationally, if only for discussion purposes as a beginning. Perhaps all that can be

done at first is close contact regarding crop prospects. Discussion of promotion, marketing, and advertising would soon follow. Involved in the same package would be grades and quality control. Next would come price and more orderly distribution.

It may be a long way off, and again it may be nearer than we think. Every encouragement should be given to every prospect that will bring the groups together.

Windfalls

SOMETHING on your mind? Something you would like to discuss regarding politics, the stream running adjacent to your orchard, Johnny's school-teacher's teaching methods, the nutritious value of tree nuts?

Whatever they are—these subconscious thoughts that keep prodding your conscious mind—Henry Bailey Stevens would like to know about. No, he's not going to try to solve your problems—he's merely interested in getting them out into the open so all readers of his forthcoming "Windfalls" column in AMERICAN FRUIT GROWER can gain a mutual understanding of each other's problems, ideas, and thoughts. It will be a chatty column, a column of those sage remarks made so spontaneously at the dinnertable. It will be your column, and Mr. Stevens will edit it. You all know Mr. Stevens, or at least his writings, for several articles from his pen have appeared in AMERICAN FRUIT GROWER.

Watch for the first installment of Windfalls in the April issue.

Fruit Growing is Such Fun!



Fruit Talk

In 25 years the baby food industry of America has grown to be a 200 million dollar business.

After operating for a season without marketing agreements, California orange growers are pleased to be back under an order.

John Einset and Barbara Lamb of the New York State Agricultural Experiment Station have added another long list of chromosome counts of apple varieties to the 184 made in previous reports.

The re-plant problem is being studied from one corner of America to the other. The solution of re-plant difficulties varies remarkably—peach nematode in one place, root aphids in another, potash deficiency in another, and our old friend phylloxera on grapes in still another.

W. G. C. Krause of England says the main difficulty with strawberries under glass is pollination, which is frequently insufficient. During the flowering period it is a common error to keep the temperature too high. If the plants are to produce a good amount of first class pollen, the temperature should be dropped before the flowering period and kept there until the fruits have set.

Premature dropping of Italian-type prunes in New York state is believed due to a virus—the solution resting with selected, disease-free stock.

Maygold, a new peach for the deep South, originated by Dr. J. H. Weinberger, USDA, Fort Valley, Ga., has the low chilling requirement of 650 hours below 45° F., compared with 750 hours for Hiley and Redcap, and 1,000 or more for several other varieties.

In the olive industry a nine-ounce can of large contains approximately 55 olives; extra large, 46; mammoth, 40; giant, 30; and colossal, 20.

One of the highest valued fruit products is lemon oil, a car of which is valued at \$350,000—so high, in fact, that railroads will carry only a single car in a train.

Exchange Lemon Products of California, through such lesser products as oil, pectin, lemonade, citrus acid, and bottled and frozen concentrated juices, grossed over 25 million dollars in 1953.

For a good story on "the future of fungicides," try a recent professional paper of the Boyce Thompson Institute for Plant Research, by Dr. George L. McNew, director, spelling out what the industrial chemist should work towards—somewhat technical but enlightening.

Unfruitfulness of certain olive plantations in Greece is attributed to dust from nearby cement works.

In large scale anti-hail measures near Verona, Italy, just south of the Alps where hail is really a problem, 47,000 rockets were fired in 1952 into hail clouds, reducing hailstorms from 355 to 32. —H.B.T.

Coming Next Month

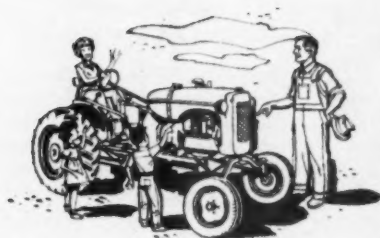
- Two Crop Strawberry Production in Holland
- Spray Fertilizing Your Fruit Trees
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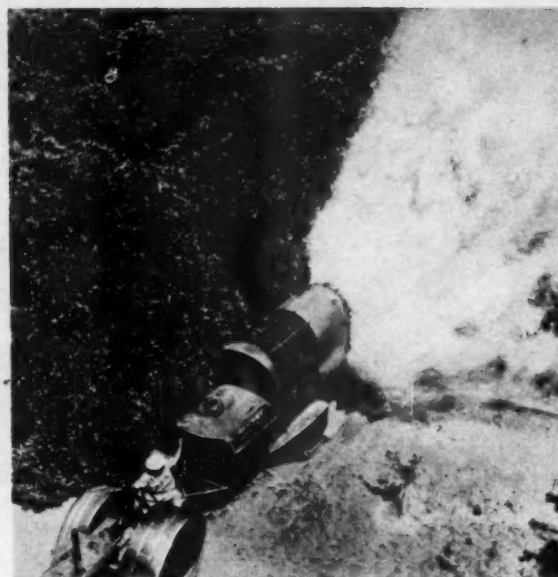
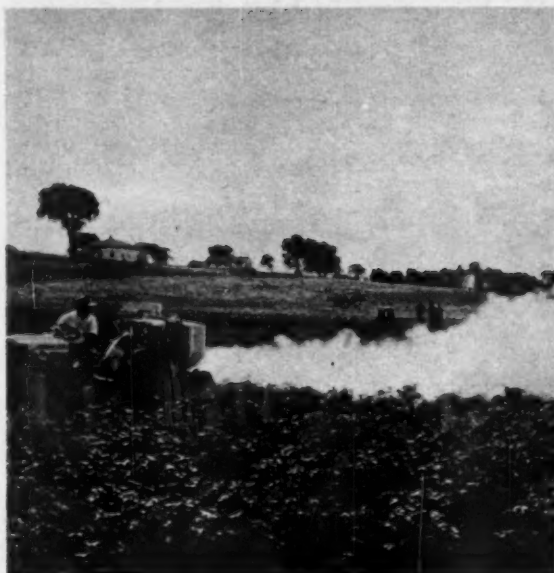
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